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Original Articles.

THE EARLY SIGNS OF PREGNANCY.

A CONTRIBUTION TO ITS CLINICAL STUDY, WITH ONE PATHOLOGIC SPECIMEN.*

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We are familiar with the usual physical signs of pregnancy in women and their relative importance, when considered singly or collectively, in influencing our diagnosis of the existence or non-existence of this condition. Some are early manifestations, while others are late in the cycle of uterogestation. These several physical signs are, according to their diagnostic value, usually classified as presumptive signs and positive signs, and, when existing, remove all doubt in a particular case, though the consideration of all necessarily delays for some months a positive diagnosis.

These signs or symptoms, though usually clear and distinct, are often obscured or modified by concomitant pathologic conditions, such as, for example, tumors, malignant or benign, within the generative area, ectopic gestation, etc., making a late diagnosis difficult or doubtful, and an early one, in some instances, practically impossible.

I shall confine this paper to the consideration of the diagnosis of pregnancy prior to and including the third calendar month, and indicate and describe a particular physical sign, which, in a very large number of cases both in private and hospital practice, I have invariably noted and which has been observed only in cases where the diagnosis of pregnancy has been subsequently positively demonstrated. This sign is observed as early as the fourth week, or possibly earlier, and consists of an intermittent softening and hardening of the vaginal portion of the cervix uteri with, in many cases, a change of color, from a pale violet to the normal pink hue, or the reverse. These changes in consistence and color are rhythmic, more or less. The alternate softening and hardening is easily detected by digital touch, while changes in color may be seen through a speculum.

These signs or processes are, in all probability, early manifestations of what is subsequently recognized as the intermittent contractions of the pregnant uterus, and are probably due to a necessity for some change or modification in the uterine circulation incident to the nourishment and growth of the impregnated ovum through physiologic intermittent congestion of the generative system.

I have never observed this sign or symptom in any other normal or diseased condition, and after careful investigation of a large number of cases, I consider it an invariable early sign of recent impregnation.

While I could cite a large number of interesting corroborative cases bearing on the subject, I will only give brief notes on a few selected ones which present different features in diagnosis.

CASE 1.—Miss —, aged 23 years, white, menses painful, scanty, irregular, leucorrhea, "thinks she has womb disease," missed last period. Examination: Left tube enlarged and tender, uterus anteflexed, size about normal, pinhole os. Sign present. Several observations made. Diagnosis, pregnancy. Patient doubted diagnosis; subsequently admitted secret marriage three and a half years before, and made public announcement, confined 230 days after my first examination.

CASE 2.—Miss —, aged 16½ years, white, specific vaginitis (confirmed by stain test), never menstruated, no morning sickness. Examination: Sign present. Diagnosis, pregnant two months. Patient asserts this to be impossible, never exposed. Was under observation at times until the seventh and a half month. Motion and fetal heart sounds noted. Patient left city for sanitarium. Subsequent history unknown.

CASE 3.—Mrs. —, aged 38 years, white, five children, menses always normal and regular, complains of constant nausea and vomiting. Examination: Bilateral laceration of cervix uteri. Uterus enlarged. Sign present. Diagnosis, pregnant about three months. Patient would not believe that she was pregnant, though she wanted another child. Menstruated regularly four succeeding months. Confined on time; labor normal, no hemorrhage.

CASE 4.—Mrs. —, aged 30 years, white, married 9 years, 4 children, youngest 3 years old; menses never regular; does not remember date of last period, often misses from one to five months; is sure she is not pregnant. Consumption in family. Asserts she has "lost one lung from hemorrhages." Abdomen very large, thinks she has a tumor, as "they run in the family." Examination: Abdomen distended with gases; perineum and cervix lacerated. Sign present. Diagnosis, two months pregnant. Patient protested and would not believe pregnancy possible, fainted and became hysterical; dismissed me and consulted another physician, who delivered her on time.

CASE 5.—Mrs. —, aged 40½ years, white, six children, three miscarriages; menses usually every three weeks, painful, profuse with clots and shreds, lasting from five to eight days, thinks she has "change of life working on her." Expected period fifteen days late. Examination: Perineum lacerated, uterus enlarged, prolapsed; cervix lacerated; left ovary enlarged, size of a hen's egg, prolapsed and fixed. Sign present. Diagnosis, pregnant between two and three months. Patient glad she did not have cancer, doubted being pregnant, flew into a passion, abusing her husband. Returned in six months, diagnosis confirmed. Lost track of case.

CASE 6.—Miss —, aged 21 years, white, shop girl, health perfect, menses always normal and regular until after two exposures three months before consulting me. Very nervous, hysterical; has had several convulsions and fainting spells. No

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nausea or vomiting or other symptoms. Examination: Uterus normal. Sign absent. (Several examinations confirmed absence of this, or other symptoms.) Diagnosis, not pregnant. Patient was sure she was pregnant, though her abdomen did not enlarge. Altogether or continuously, menses were absent ten months, after which it appeared regularly, though it was pale and scanty, lasting from one to two days. Former periods lasted five days and were always free. Last heard from patient three years ago, no change in menstrual function.

CASE 7.—Miss — admits something over 40, white, a typical old maid. Thinks she began to change life at thirty-five. Menses irregular the past year, more or less so for several years. No nausea or vomiting. Has sugar in her urine. Examination: Vaginitis, leucorrhea, pruritus vulvæ, pelvic organs normal. Sign present. Patient denies exposure. Diagnosis, pregnant, about two months. Treatment and examination continued four months, when she admitted having sexual relations for several years past. Married the man, or a man, at the point of a gun. Removed to another city, confined on time.

CASE 8.—Mrs. —, age not stated (about middle life), white, married six years, two children, no miscarriage. Menses always regular and normal. Last period twenty days late. Is en route via New York for one year trip abroad. Ship sails in five days. Will not continue if pregnant. Examination: Sign present. Confirmed on three succeeding days. Diagnosis, pregnant. Trip abandoned, remained "doing" Washington one week. Consulted a physician in another city who doubted my opinion. Said she had suppression from nervousness or cold. Things became very hot for me; frequent letters criticising my diagnosis and intimating damage suit. Returned to her home, Kansas City, was confined on time. Profound apologies preceded the event.

CASE 9.—Mrs. —, aged 33 years, white, wife of officer, U. S. V. from Western state, en route to Philippine Islands, was advised by family physician to consult me. Menses late fifteen days, desires to abandon trip and remain at former home in East, if pregnant. Examination: Sign present. Confirmed on seven succeeding days. Diagnosis, pregnant. Trip abandoned, husband proceeding alone. Patient went to New York State, her former home. Confined on time, subsequently joining her husband in the Philippines.

CASE 10.—Mrs. —, aged 35 years, white, wife of medical officer in Philippines. One child ten years old. Three years ago was operated on by me at Providence Hospital for relief of pelvic adhesions, diseased endometrium, profuse, painful menstruation, all of several years' duration. Recovered promptly. Joined husband in Philippines and China, returning to New York City after two years' residence there. Health excellent, no return of old trouble. Missed February period. Second week in March was stricken suddenly ill with severe pains in pelvis and lower abdomen, bloody discharge and shreds, in small quantity passing from vagina. Prominent New York physician consulted, suspected tubal pregnancy. Consulting physician agreed with attending physician advising immediate laparotomy at sanitarium. Telephone appointment made with me for operation in Washington, and patient dispatched on night train.

Examination on arrival. Uterus somewhat enlarged, fixed, displaced upward and forward against symphysis pubis. No discharge. Fluctuating mass, posterior to uterus, no special tenderness on pressure. Sign present. Confirmed by subsequent examination. Diagnosis, uterine, normal pregnancy. Cystic degeneration of right ovary.

Operation.—Diagnosis communicated to patient and her husband, both of whom demanded laparotomy; this I performed at Providence Hospital, March 13, last. The uterus was enlarged, soft and symmetrical, displaced upward and anteriorly by a posterior mass, consisting of an abscess common to both ovaries. All pelvic structures intimately bound by adhesions. Both ovaries were prolapsed and adherent to one another with the tangent walls necrosed, permitting communication with the abscess in either, and forming one common pus cavity, the walls of which were the two adherent ovaries. The enucleation ruptured the adhesion between the ovaries opening the common pus cavity, discharging badsmelling pus. Contamination limited by usual methods. Subsequent surgical history uneventful.

Obstetric History.—Ten days after laparotomy, uterine contractions with pains and slight flow appeared, but were controlled by sedatives. Patient left hospital in good condition, going to residence of local relative. All continued well until April 21, when violent uterine action began, resulting in miscarriage. Fetus and a portion of the secundines were expelled and lost before I arrived. I removed the remaining secundines and curetted the uterus immediately, under ether, assisted by Dr. Morse. Patient recovered without complications and returned with her husband to New York.

Pathologic Specimens.—The pathologic specimens which were removed from this patient by laparotomy show that both tubes are normal, while the ovaries present the pathologic condition described. Both ovaries were diseased, and not the right one only, as I had supposed.

The term "delivered on time" as used in this paper signifies that the date of delivery reasonably, if not identically, corresponded to the date of delivery determined and announced by me when I made the initial examination and diagnosis. The women not delivered by me communicated the fact and date of their delivery by letter.

NEURASTHENIA AND ITS TREATMENT BY ACTINIC RAYS.*

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Neurasthenia or "nerve weakness" is a definite clinical entity, yet it is not always easy to diagnose this condition nor to understand its cause or causes in an individual case. Its treatment is frequently extremely difficult, notably in those instances in which definite psychical phenomena have demonstrated themselves. The condition is often profoundly mixed with functional troubles, like hysteria and hypochondria on the one hand, and with real organic processes, such as endocarditis, gastroenteritis and hepatitis, on the other. At this time I desire to speak mainly of neurasthenia to elucidate a new method of treatment which has sprung from a careful consideration of those forces, which seem to me to be actively engaged in the process of producing nerve strength and nerve debility. For the sake of convenience, both in teaching and in treatment, I separate, quite arbitrarily, neurasthenia into three divisions, irrespective of producing factors, to-wit: 1. Nerve weakness. 2. Nerve prostration. 3. Nerve exhaustion. Each of these represents a general condition. In addition, we have to consider phases of more localized nature, in which the symptoms seem to be relegated to one particular anatomic field, or at least predominate in that particular area. Such cases may be termed simply "local neurasthenic states." We shall recur to them later.

To my mind, neurasthenia presents a condition rather than a disease, though this distinction may be invidious and trivial. In its true aspect the state is distinctly cerebral, usually only secondarily developed, but nevertheless distinctly cerebral. In all true cases we are

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dealing with a loss of nerve force, whatever this force may be. We are dealing with the cellular elements of the brain, not with their connections with destined portions of the body. The brain cells are in a state of fatigue, of fag, wherein they have lost to a certain extent their inherent power of motility, not mobility. Personally, I am a strong adherent of the doctrine of structural activity native to the brain cells proper. It must not be conceived that I, or others, believe brain cells have the power to change their places or anatomic locations at will; that is to say, that they possess mobility. Such a theory would doubtless be entirely erroneous. That the brain cells, however, possess a certain degree of motility, whereby they are enabled to change their anatomic forms somewhat by sending out or drawing in their dendritic processes, I quite firmly believe.

When a nerve cell, or rather, a brain nerve cell, is in a condition of strength it passes through alternate phases of activity and repose. In the active state the polar prolongations stand in direct or indirect relationship to or connection with those of other brain cells, marking certain brain paths, either of association or tract formation. In a condition of repose these prolongations are disconnected, so to speak, drawn into the bodies of the cells proper. It is thus that the cell rests or restores its energy in order to again become functionally active.

If for any cause the cell loses this power to disconnect itself from its environment by the withdrawal of its contactile elements, it remains in a state of functional overactivity, which, if it be long enough continued, results in an exhaustion of the inherent cellular force. In other words, the cell has lost its power to rest itself, and thereby recuperate its wasting energy. By remaining in connection with surrounding elements too long and too closely, the cell has been brought to a state of fatigue or exhaustion.

In such cases as are manifestly of a more or less general type, we must conceive this tiring-out process to be enacting itself throughout the various areas of the brain, and we will, therefore, find symptoms of an almost universal character presented. In fact, herein lies the secret of the great extent and variety of symptoms shown by advanced conditions of this nature, which on any other hypothesis would be inexplicable. The multiplicity of symptoms from every part of the physical system is in some cases truly remarkable and appeal to the physician at times as impossible or imaginary. While it is true that in many instances a large degree of the severity and nature of these symptoms is purely exaggerated, I believe it would be erroneous to consider them purely suppositional. In almost every case of neurasthenia there is present a strong admixture of hypochondria, but the latter is usually dependent on the former, and merely serves to give a certain trend to the ideas and thoughts of the sufferer.

And this brings me quite naturally to speak of the mental state exhibited by a large percentage of neurasthenics. This is frequently as pronouncedly abnormal as to impress even a careful observer with the opinion that the patient is really insane or on the borderland of insanity. Yet I would here make a distinct demurrer. While it is true that there is a type of mental alienation which might be termed "neurasthenic insanity," yet it seems to me to be relatively infrequent, if we confine ourselves strictly to standards deemed characteristic of any true insanity. There is a vast difference between the mental condition of the neurasthenic and the mental condition of the melancholiac or beginning paretic. While depression dominates the ideational sphere, as a rule, in all pronounced cases of neurasthenia, it will be observed that the abnormal ideas presented can almost always be corrected by the evidence of the senses and judgment. The neurasthenic also is open to moral suasion, ordinarily, and as he grows stronger and into a better condition of vitality, he himself is apt to recognize the erroneousness of his conceptions. In true states of psychical depression, such as melancholia, this is very rarely the case, save toward the very close of the psychosis. One of the most common and at the same time most misleading mental phases of many neurasthenics, is the element of hysteria associated with the nerve weakness. I can not say that this functional condition, when combined with neurasthenia, presents features in any wise different from those usually manifested in its pure form. My observation leads me to believe, however, that the hysteroid manifestations of neurasthenia are apt to be of much milder type, and almost never assume the extent of those instances of extreme unmixed hysteria characterized by what the French termed *"grandes movements"*—excessive bodily contortions or the throwing about of the individual. With incipient paresis certain extreme cases of nerve exhaustion have many points of similarity, and the former undoubtedly sometimes follows on the latter. It is usually not difficult to differentiate between the mental state presented by each, though I confess to have been more than once deceived in this regard.

So much for the psychic phases so frequently met with in cases of neurasthenia. I have merely referred to them cursorily, because they form very commonly the main reason for isolating patients of this character. These few words may also not come amiss as a sort of warning not to too readily deem the mental condition of the neurasthenic an evidence of true insanity.

To recur once more to the main theme, general neurasthenia. In those cases whose mildness of type would permit their classification into the first group—simple nerve weakness—we encounter only the first stages of loss of vital force. Here we are prone to find manifestations of overactivity in the cellular functions of the brain cells—what I should like to call "brain irritability." Associated with a hypochondriacal mental state there are symptoms of general and sometimes local fatigue. The patient tires readily both mentally and physically, but at the same time presents muscular tremors and even muscular jerkings of a kind which appeal to us as symptoms of grosser cerebral lesions. In the second and third groups, those of nerve prostration and nerve exhaustion, we note merely successively more marked degrees of those manifestations exhibited in the first group.

It is quite unnecessary for me to enter into the usual picture of advanced neurasthenia, for each of you has become thoroughly familiar with it through personal experience. I desire only to draw your consideration to those phases of this malady which are sometimes a source of worry to all of us.

A word about those peculiar states of nerve fag which I group together under the title of the "local neurasthenic." As I have before mentioned, these sometimes arise or seem to be present during the course of general neurasthenia. In such instances we not infrequently find almost all symptoms relegated to a given anatomic field; for instance, an arm, a leg, or to given physio-

logic field, such as vision, hearing, memory or the sexual sphere. Each of them merely signifies to me that associated with a universal loss of cellular force throughout the brain there is a more pronounced exhaustion in some cerebral area. In this area the brain cells have lost their power to rest more markedly than in other cerebral areas and, therefore, symptoms of fatigue are especially shown in the anatomic or physiologic district of the body governed by the more affected brain area. If, for instance, the cells of the frontal lobes are most impaired in their recuperative power, symptoms from the higher intellectual centers will supervene; there will be more impairment in the faculties of memory, judgment, ideas, than in the purely physical functions. If there be a more advanced stage of cellular exhaustion in the occipital lobes, vision is apt to be most involved. If the motor areas of the brain are most concerned in the cellular process, then muscular manifestations—tremors, jerkings, weakness, even to paresis and paralysis of the arms and legs—are apt to dominate the symptomatic field. However, in all of these conditions we find the associated general low state of vitality.

This is not true where we encounter those peculiar "local neurasthenic states" unaccompanied by any signs of a general loss of tone or lack of vitality. In these instances, by contrast, the evidence of local fag seems the more pronounced. To me the so-called "occupation neuroses" appeal strongly as being of the above type, namely, purely "local neurasthenic states." Of these, the commonest are "writer's cramp," "telegrapher's arm," etc. They are all of them dependent on local cellular brain exhaustion. I do not consider them in the least as peripheral nerve affections. If they were of the latter sort, they would probably be easily cured. It is because they are due to the loss of power to rest through overtaxation of the brain cells governing the affected part that these peculiar maladies are so difficult to overcome. Now the question may most aptly be asked, "Wherein lie the causes of this loss of power on the part of the brain cells, and what is the essential nature of this force which is inherent in these brain cells?" That this problem is a most difficult one to solve, everyone will be, doubtless, willing to admit, and I confess it requires no small degree of assurance on my part to attempt its solution or explanation. Nevertheless, I shall place before you my ideas on this subject. If I felt they were mere idle fancies on a most fascinating question, I should not bring them to your consideration, nor lay myself open to the censure of frivolity on a matter of so serious import.

For a number of years, through study and observation, I have endeavored to explain to myself the phenomena exhibited by patients suffering from loss of vital force. The many nervous affections coming under my daily observation have given me ample opportunity to study these phenomena. In conditions of neurasthenia especially, this occasion is most strikingly afforded, for we find so many associated processes, like anemia, deficient oxidation, and, secondarily, tuberculosis of the lungs, in conjunction with it, that we possess definite criteria by which to measure our deductions and our efforts in treatment. As to the causative factors in bringing about this loss or waste within the brain cells, they are doubtless varied and many, but each of them alone or combined seems to me to effect ultimately one condition so far as the nerve cell itself is concerned. The cell is kept in a state of circulatory overnutrition or overexcitation, whereby its contactile elements remain in activity and the cell is prevented from resting and recuperating its force. Just what this force is no one has ever fully explained, nor do I claim, beyond these suggestions, to have arrived at an absolute conception of this force which, for want of a better name, has been termed "vitality." From the above, it will be inferred that I place the brain cell on a plane similar to that of a storage battery. This is to a great extent true, allowing for the difference between a living and an inert cell. As a matter of fact, I do consider essential nerve cells as closely allied to those making up a storage battery; and, furthermore, I believe the force emanating from each is similar in nature. We know that the force emitted by the storage battery is electricity. We can not definitely say that that of the nerve cells is identical with, but there is ample reason to believe that it is similar to, electricity. Granting, for the moment, that the vital force of living protoplasmic matter is similar to, if not identical with, electricity—and there is no valid ground on which to oppose such a conception, inasmuch as no one has ever shown just what the force we call "electricity" is—then we must ask ourselves, "whence comes this force?" How are the brain cells replenished when once they have used up their quantum of stored-up energy? Have we elsewhere in the human system any evidence of a power to generate electrical or electro-magnetic force? If so, how is it carried particularly to the cells of the brain? We know, with a fair degree of positiveness, that there is no organ within the body which can be assumed to act as a systemic dynamo, but, on the other hand, we know with equal positiveness that there are evidences of polarity of two kinds within the system. There is a chemical polarity, whereby an acid medium lies in juxtaposition to an alkaline medium, as shown along the digestive tract and elsewhere, and, then, to this theory more intimate, a cellular polarity in the tissue of the blood—a living, moving tissue which reaches and nourishes every part of the organism, the brain cells included.

Two qualities are essential to a conception of polarity, namely, attraction and repulsion. We may call these technically positive and negative affinities or poles, parallel with the terms used in electro- and magneto-physics.

The red blood corpuscles show to a high degree this polarity. In health this polarity is essentially in play, for on any other supposition the peculiar attraction of the red blood corpuscles for each other could hardly be explained. It is this inherent quality which causes the "gold roll formation" characteristic of normal blood tissue. Any impairment or loss of polarity, as seen in low conditions of vitality, as in advanced neurasthenia and tuberculosis, is followed by the breaking up of this normal gold roll formation characteristic of the healthy state.

I am aware that the above idea may seem at variance with the most recent results of the investigations of Flexner, his pupils and others engaged in research along the lines of certain bacterial-endo-toxins, and their discoveries of hemolysins, leucolysins, hemagglutinins, precipitins, coagulins, etc., in human blood under certain conditions. Yet I do not see why any variance should really exist, or why we need believe that the existence of these toxic substances in any wise invalidates the conception of the polarity of the red blood corpuscles.

In addition to this quality of polarity, which I regard as electromagnetic, we know positively that the

red blood corpuscles are the active chemical carriers of the system; that to them is due the oxidation so essential to tissue metabolism. If these red blood corpuscles are capable of carrying necessary chemical elements and bearing active oxygen to the various tissues, there seems to me no adequate reason to discountenance the idea that they may also carry other forces, possibly of an electric or magnetic or electromagnetic nature, especially as we know that these can be produced through chemical agencies. To the red blood corpuscles we must ascribe, on this theory, the fundamental generative power, or at least this power in conjunction with extrinsic influences like sun light or the energy of food stuffs, which in turn have derived their energy from the sun light. To the nerve cells we must ascribe the conserving and releasing power of this force conveyed to them either in generated form or in a form which they themselves are able to convert into energy of an electric character.

The red blood corpuscle is the fundamental unit or ion on which this theory depends, and it is on this basis, namely, the power of the red blood corpuscle to assimilate certain rays of light or to take from them certain chemical or electrochemical elements, that a method of treatment has been elaborated, the main features of which I wish to detail to you. It will, I think, appeal as a logical method, evolved out of the foregoing line of thought.

We know that the sun radiates three qualities of rays. The calorific or heat rays, for the most part lying beyond the red; the luminous or light-giving rays, such as lie between the red and the violet of the spectrum; and the chemical or actinic rays, invisible to the eye under ordinary conditions, lacking in heat but most potent in their chemical, notably, their oxidizing property. The actinic rays lie mainly beyond the violet of the spectrum, in what has come to be called the ultra-violet zone, but the violet zone also possesses marked actinic qualities. Of the rays perceptible to the eye as seen in the prismatic spectrum, the red are the hottest, the orange next hottest, and so on, till we reach the violet which, while they are the coldest, still emit the greatest light on account of their shorter wave length. All of the luminous rays, that is, those we can see, differ in wave length only. It is this difference in wave length that induces the difference in color. When wave lengths become either too long—as in the infra-red zone—or too short—as in the ultra-violet zone—they become invisible to the human eye, though not to human consciousness and human utilization.

When rays of light, whether from the sun or any other luminous substance, strike an object they do one of three things, alone or in conjunction, namely: 1, They are reflected or turned aside; 2, transmitted or passed on; and 3, absorbed or utilized by the object itself. Probably every object does all three to a certain extent, but we have here to deal only with the last-mentioned factor, the *absorption* of light. Objects differ widely in their coefficient of light absorption, but probably every object absorbs light rays to a greater or less degree. Notably is this true of the violet and ultra-violet rays, whose characteristic is chiefly chemical or actinic. It is this actinic force that we are henceforth to consider and mainly in its relation to tissues. In other words, its action in maintaining health, in the prevention of diseases and in their treatment.

I believe I have elaborated a method of great practical value, thoroughly scientific in its principles and eminently qualified to produce excellent therapeutic results, directly corresponding to those which are naturally taking place around us through the action of sunlight, and in every respect verifying on living beings suffering from various diseases, the experiments demonstrated in our bacteriologic and hygienic laboratories.

To begin with the simplest method, the action of pure sunlight. We know, and have for ages known, that where the beams of the sun are shed disease is practically never encountered. From remotest periods to the present day it has been recorded that the most salubrious locations were those flooded with sunshine, and equally as a matter of record that where sunshine never falls we are certain to find disease. Sunshine purifies everything it touches, disinfects every object it penetrates, and retards or destroys every known form of germ life, even when these germs are of the most virulent type and in the most favorable culture media.

The more the sun's rays are absorbed and the longer the exposure to the action of the rays the greater will be, and is, the effect attained; but it must not be supposed that this effect is due to the heat of the solar beams. While it is always inseparable from this quality, it is almost purely the actinic action to which is ascribable this beneficial influence. That this is true can be definitely and readily demonstrated by anyone with a large prism exposed to the sun, and with an ordinary culture tube containing almost any germ in virulent stage. It will be found that all forms of light rays have a beneficial action, but that this becomes markedly greater as we proceed in the exposure successively from the red—the hottest—to the violet—the coldest—zones of the spectrum. It is, therefore, not a thermic, but a chemical, an actinic action we encounter. It follows, then, as a matter of course, that the nearer the surface the diseased tissue lies the more readily the actinic force will become applied.

The simplest form of application is the direct sunbath, where the nude body is exposed to the sunlight. Simple as this method is, it is woefully neglected. Moreover, it is effective in almost all conditions of debility, notably after wasting diseases like typhoid. The younger the individual and the more absorptive the skin, the better the result will be. The sun-rays become directly absorbed by the tissues, the blood corpuscles coursing in the vessels beneath the epidermis, and deeper, are bathed in sunlight. The chemical action of the light unfolds itself to the extent of increasing the oxygen-carrying property of the hemaglobin, and even to the augmentation of the corpuscles themselves, both red and white. Herein we have a distinctly actinic force, the primeval actinic method available to any person, free, God-given wherever the sun may shine. Just here, however, lies the difficulty.

The sun is so frequently obscured by clouds or mists that his effect is lost to a vast degree, and we are forced to seek either a locality where atmospheric conditions are favorable or create an artificially favorable atmosphere; one where there is ample light, akin to sunshine, and best, associated with the purest of air containing large quantities of ozone, free or nascent. These two, light and ozone, are absolutely inimical to disease, to germ life in any form. They are found, as is well known, mainly at an altitude far above the sea-level; on mountain top. Unfortunately, every invalid can not seek such localities, and besides, the factor of altitude plays an unfortunate rôle. It changes the breathing basis. If this change in the breathing basis is maintained long enough, individuals living thus must continue to

dwell under similar conditions. If they pass to low altitudes, a quick relapse is apt to occur. For this reason I have been led to seek to create an atmosphere similar to that of the mountain top, rich in light and ozone, but without altitude. I have believed that this could be attained, and have steadfastly worked toward that end, assured that if successful, it would accomplish both extreme oxidation and germicidal effect, thereby covering a vast field of disease from the extreme alkaline or strumous-tuberculous, to the extreme acid or rheumatoid-lithemic. And I have good reason to believe both have been accomplished, not only as to method, but also as to results.

Ere describing this method and its uses, it will be necessary to elucidate the course of reasoning traversed toward its attainment, from its inception through a study of the sun's rays and their influence to its present state of development. Sunlight produces kinetic and potential energy in the vegetable, the mineral and the animal kingdoms, all of which bear a sort of interchangeable chemical relationship to each other. The energy of the sunlight and heat is a force at least akin to if not identical with electricity in some or all of its forms. In fact, many scientists believe on very valid grounds that electric phenomena are the direct expression of the chiefest force in nature, the transplantation rather than the transformation of the solar energy itself. At least, it is a known fact that we can accomplish with electricity of exceeding high potential almost every phenomenon attainable by the sunlight, when the rays are concentrated sufficiently, high or low. First of all, we can create through electricity a luminous or incandescent condition, vastly less in degree but exactly akin to that of the sun itself. Moreover, a body so rendered luminous or incandescent acts on other bodies in a manner exactly parallel to the action of the sun. Furthermore, experiment, research and practice have demonstrated the perfect feasibility of the conveyance of potential energy to substances or bodies, living or dead, by electricity in a ratio approximating that of the solar planet. Almost every physical or chemical property of the sun and its forces has been reproduced in miniature by electric currents in some form. Even the storage of potential energy in plants and animals, or parts of these, has been accomplished in a manner truly analogous to that exercised by the sun itself. Just as vegetable and plant life unfolds itself and grows to the full in the light of the sun, so it can be made to unfold and grow in the light created by the voltaic arc.

From this basis a method of treatment has been deduced. It is perfectly practical, absolutely safe, and if I may judge of the results attained during the five years of most careful use and development (of the method), of much importance. It is to this method that I particularly desire to call your attention. Some of you know of, and a few of you may have witnessed, the work of Professor Finsen of Copenhagen, an actinic-ray treatment of certain dermatologic leisons, like lupus, first by means of the sun's rays through concentrating lenses, and later through powerful electric-arc lamps and lenses. So far as is known to me, Finsen and his followers have directed their efforts only toward skin affections, mainly lupus, it is said with excellent results, but at least with no more and probably with less effect than by the x-ray method. Others, among whom may be mentioned Mount Bleyer of New York, have attempted to cure constitutional maladies, like pulmonary phthisis, along much the same lines, or with static machines of great power and electrodes saturated with formaldehyd solutions placed on the chest or other affected part. Others again have employed electric-light baths, using ordinary incandescent globe-lamps, which are perfectly worthless.

Doubtless some of you recollect that a few years ago violet panes of glass were used with this same end in view. None of these methods has, I believe, given satisfactory results, mainly because they were not practically applicable; but the underlying principle of actinic action was correct, and these failures but serve to show that for many years there have been made efforts to secure some actinic method of worth. This method, I believe, I have elaborated to a point where not only general but also local actinism associated with nascent ozone is possible. By this means it seems to me an artificially created atmosphere akin to that of the mountain top, but richer even than this in actinic qualities and ozone and without the deleterious effect of altitude, has been attained. This, and the use of specially constructed vacuum conductors, without any terminals whatever, to be attached only to one pole of extremely powerful amplifying high-tension electrical apparatus for local application, are only the claims of uniqueness I make, so far as means and method are concerned. The claims as regards therapeutic results form another and distinct chapter.

The apparatus used is as follows: Picture to yourselves a large cabinet into which the nude body is placed in sitting posture. Behind and in front of the body projecting within the cabinet are powerful specially wound arc-lamps, the durability of which is sacrificed to their efficiency. On this cabinet and separated from it, is a sliding dome to contain the head of the patient. In this dome is placed a diffuse ozonating arc of peculiar construction. This latter is connected with a compound combination amplifying apparatus in one end of the cabinet, distinct from the space occupied by the body. From the amplificator certain wires run to poles to which the conductors for local use are attached. These conductors may be called electrodes with non-conducting exterior and a conducting interior, without terminal wires or plates. Such is the apparatus without entering into details of construction. When in use, the body of the patient is flooded with extremely rich actinic light. The body being nude, the penetrative rays not only bombard the surface, but pass through the epiderm to enter the blood corpuscles coursing beneath. That they do this would certainly seem indicated by the increase in per cent. of hemaglobin and the quick augmentation of the corpuscular elements. Under treatment there is usually profuse perspiration, but the body temperature has never been found raised beyond one-half degree, so that the effect is not a thermal one, but due to stimulation of the nerve-endings.

The head of the patient is protected from the intense light to which the nude body is subjected, partly in order to insure the safety of the eyesight. The air breathed is enormously charged with free ozone, or if desired, with formalozone or eucalyptozone, or with a combination which experience has shown particularly efficacious. Attention is drawn to the fact that these elements are in gaseous form and can, therefore, enter wherever air can penetrate. I have always regarded vapor inhalations as deficient, because no vapor-laden air can enter into the deeper-lying diseased lung tissues. This only gaseous substances can do. Whenever a local application is made a very remarkable phenomenon is shown. Not

only does the conductive interior become luminous, but ozone in its most powerful tristomic form is driven into the tissues and remains in situ in nascent form to liberate free oxygen at any point toward which it is directed. This I have repeatedly demonstrated in living animal tissue. The conductors are constructed in diverse forms to suit the anatomic regions for which they are employed. Thus we have those for surface application, for the vagina, for the nasal cavity, for the larynx, etc. This is, in short, the method of usage.

Now as to the affections treated and the results thus far attained. At first I was in search merely of an actinic action to assist in the restoration of lost nerve energy in cases of neurasthenia and debility, such as come so frequently into my care at the sanatorium. Experience, however, demonstrated that the method had a vastly greater range of application than I had counted on, for complicating or causal affections were either improved or cured. For this reason I began to experiment with chosen cases of various diseased conditions, such as pulmonary tuberculosis, diabetes, syphilis, rheumatoid affections, as well as distinctly organic nervous affections, and the many localized conditions so often encountered in neurotic subjects, notably acute and subacute pelvic inflammations and exudates. Certain skin affections, like eczema and psoriasis, were also treated. It would require too much time to enter into all the details at this time. I shall content myself with a brief recital of the general results attained. During the six years in which I have employed this method a large number of cases have been treated, with an aggregate of several thousand treatments. There have been failures to record in some instances, but in the main this method has given excellent and some remarkable results. Several cases of pelvic inflammations and exudates have been completely cured, some only partially benefited. Many patients suffering from catarrhal, nasal and bronchial affections have been either entirely relieved or much ameliorated. In hay-fever and asthma the results have been especially good, both under complete and local application. Several extremely severe instances of these affections have been cured, or at least the attacks overcome without sending the afflicted individuals away from home. Two cases of widespread psoriasis of years' standing were very rapidly and seemingly completely relieved. In the treatment of locomotor ataxia and other constitutional nervous diseases, the results have been far more satisfactory than by any other method I have ever employed, and I think I have used almost every method of any worth whatever.

In all stages of uric acid and rheumatoid maladies, I fully expected distinct reaction to this method, for it is essentially one of oxidation. The profuse perspiration which nearly always accompanies the actinic treatment is naturally of the greatest value whenever faulty metabolism exists, and when this is directly influenced by oxidation of the deposits and consequent solubility of substances known to act deleteriously on the system by their toxic character, it could fairly be surmised that distinct benefit to the patient would result from their elimination. Experience has shown that my expectations were completely realized. Several severe cases associated with marked nervous symptoms were entirely relieved, while milder forms recovered with comparative rapidity. It must be remembered that we deal in such conditions with an actual loss of oxygen in the molecular composition of uric acid, $C_5H_4N_4O_3$. By restoring the oxygen in nascent form solubility is recovered.

But it has been in neurasthenia and other debilitated conditions, that the best results were attained. The results have been almost uniformly excellent. A large number of cases have been treated during the past six years, and there have been few, if any, failures to report. While in every instance the general treatment, as outlined before, has been followed out, it has frequently been necessary to overcome certain local or causal manifestations by means of local actinic applications. This is especially true as regards the neurasthenic aches and pains along the spinal column and in other regions of the body.

Not only have the individual results been good, but the duration of treatment has been materially lessened, in some cases fully one-half. This is clearly evidenced by a comparison of the period during which patients remained at the sanatorium before and since the inauguration of this method at "Norways."

The most gratifying results have been attained by this method in pulmonary tuberculosis. I am fully aware that in making this assertion I am treading on ground which has been for years worked on and in which some glowing medical failures have been a matter of record. Nevertheless, I am prepared to assert positively, and hope eventually to prove by future results, that in all cases of lung tuberculosis where the disease has not advanced too far, complete cure will result from the proper methodical use of the actinic method. The cases heretofore treated, while not a few in number, may still be considered insufficient to bear out my claims in the minds of the profession at large, for we are all naturally skeptical whenever a new cure, however positively stated and no matter how reliable the source, is called to our attention. To my mind, however, a dozen cases carefully followed out, both clinically and pathologically, with careful blood and sputum examinations at frequent intervals during the course of treatment, are as reassuring as a hundred, where the results gained are so eminently complete.

In the cases of phthisis heretofore treated, these results have been as follows: In every incipient case and in every case where the process had not passed beyond what is commonly termed the first stage, there has not been a single failure to record. Almost from the commencement of treatment a noticeable improvement showed itself. Expectoration and cough—which at first may be augmented for a time—decreased, appetite and weight increased in spite of often profuse sweating during the ten to twenty minutes of body exposure, and gradually the physical weakness disappeared. In from ten days to three weeks the blood examinations revealed a notable increase in the number of red and white corpuscles, sometimes multiplied several times. The per cent. of hemoglobin increased markedly. The sputum grows thinner and more profuse at the start, but gradually decreases in volume, with a corresponding decrease in the number and final disappearance of tubercle bacilli and other micro-organisms of mixed infection. It is to the septic influence of the latter that so many of the associated clinical symptoms of consumption are due. In fact, I wish here to record the decided opinion that tuberculous affections *per se* are not nearly so dangerous or so fatal as the profession believes. Nor is pure tuberculosis a febrile disease. It is only where there is a mixed infection with the germs of ordinary sepsis that fever obtains, that rapid advance in the malignant process occurs; and usually here only that we meet with a fatal end. Unfortunately, this mixture of infection usually takes place. It is in overcoming the compli-

cating septic condition that gives this method its greatest value and permits the restoration of the wasted energy to these patients. It is unnecessary to further speak of the immense advantage thus gained toward the extinguishing of the tuberculous process itself. Patients suffering from more advanced stages of tuberculosis were much benefited, and some seemed on the verge of recovery, but continued to manifest distinctly characteristic symptoms.

I have tried this method of treatment in cases of far-advanced phthisis with cavity formation. Only the complicating symptoms were relieved, especially when formo-eucalyptozone was used. Cases with strong tendency toward hemorrhage are probably unfit for this method of treatment, though no bleeding of magnitude had occurred under my observation. I have been careful to select the cases and have not allowed anyone I considered a dangerous subject to be treated. However, I have shunned no case of pulmonary tuberculosis which I felt might be cured by a long sojourn in Colorado or elsewhere, and in several instances I have taken cases into treatment which I should not have risked sending into high altitude. It is to the absence of altitude that this method owes its absolute safety. Everything else that the condition of the Colorado mountain atmosphere gives, seems to be abundantly supplied by the actinic rays of light and the free ozone.

In addition to the general treatment as previously described, local applications on the chest over the affected areas in the lungs were invariably given with a view toward sending ozone, in nascent form, directly into the diseased tissues by means of the glass electrodes. Nascent ozone is an extremely active germicide, and in addition liberates free oxygen *in situ*. Doubt will probably be expressed as to anyone's ability to send nascent ozone into any given part of the deeper tissues, on the ground that electric currents diffuse themselves along the paths of least resistance beneath the skin. This is quite true for ordinary currents, and to a lesser degree of this method also. The currents used are, however, of such high potential, and as the actinic rays travel along approximately straight lines after deliverance, the usual rule does not apply here. Experimentally, I have sent ozone into animal tissues and found its presence there by chemical reaction. It is a common comment of patients thus treated that they can taste the peculiar effect of the ozone in the expectoration long after the external application has been made. Nor does the effect of this treatment seem evanescent or lacking in ultimate permanency, for those patients who had recovered showed no marked tendency to relapse, even where they were not as cautious as they should have been.

Some of you may very reasonably ask why I do not give full statistics of all cases treated during these years. My reasons for not giving more detailed statements regarding them are two-fold. First, too much time would be consumed thereby, and, second, they would be questioned no matter how complete they might be. Everything savoring of newness and importance in the medical world is with perfect justice regarded with skepticism by our profession at large, in part because the enthusiasm of investigators and observers so frequently carries them too far. I have tried to be as conservative and moderate as I feel the importance of the subject and the results heretofore gained would warrant. As remarked before, what the actinic method as here described accomplishes after this perfectly frank statement of its worth, as I and others regard it, must be the sole criterion of its value and utility.

SUMMARY.

To summarize what has been brought forward to-day, I conclude:

1. Actinic rays are chemical in their quality, but of small caloric value.

2. They exist mainly in the ultra-violet zone of the spectrum.

3. Actinic rays derived from high power electric lights are similar to or identical with those of solar origin.

4. Their use is as rational as that of sunlight itself.

5. Their value lies in their decomposing, but at the same time reconstructive molecular action on the body tissues, mainly the blood elements.

6. By the method herein spoken of their activity is enhanced by the generation of ozone in free and nascent form.

7. Their ultimate effect is one of oxidation, and consequently they increase the metabolic changes, thereby augmenting the natural processes of regeneration within the system.

8. The germicidal action is especially pronounced on account of the fact that few germs can exist in the presence of free or nascent oxygen in either biatomic or triatomic form.

DISCUSSION.

DR. D. I. WOLFSTEIN, Cincinnati—How long has this treatment been used, and what is its general effect on diseases of the nervous system?

DR. JOHN PUNTON, Kansas City—If Dr. Sterne has succeeded in finding a method that will cure these cases of neurasthenia he has conferred a great benefit on mankind and the medical profession. I am glad to hear that he has not had any failures.

DR. WILLIAM J. HERDMAN, Ann Arbor, Mich.—There is no doubt a physical explanation of the action of the nerve cells. At our Denver session I presented a paper on the dynamics of the nervous system, and I am glad to find that an independent course of thought has run nearly parallel with my conception of what takes place in the nerve cell, both physiologically and pathologically. I doubt if we will ever fully explain this to ourselves—this complex problem of the constitution of the nerve cell and its activity. Dr. Sterne is getting exactly the same results from the actinic rays that are secured from the high-frequency current in many of its forms, which were demonstrated years ago by Brown-Séquard and others. We all know that the simpler forms of the electric current have certain physical effects on the organism. It will produce physiologic contraction of contractile tissue. It will also cause a movement of the fluid constituents of the organism from one part of the body to another, in the phenomena which we term cataphoresis. This is done by means of the direct current. The indirect current, in the form of the induction coil, also has a wide range of usefulness, largely due to the difference of potentiality and the frequency with which the interruptions take place. Those are what we term the gross effects. Now, when you begin to increase the potentiality and the frequency of the alternations, you reach a point where nerve tissue, as such, can not respond or where protoplasm or muscular tissue can not respond. About ten thousand alternations per second is the limit. But the alternations of the high tension, high-frequency current run up into the hundreds of thousands. We know very well that molecular activities, either organic or inorganic, are almost infinite in the number of vibrations that may take place. In these glass tubes, such as the one shown by Dr. Sterne, the molecules are bombarded to and fro, and this molecular action is directed by the electric current. Some are positive, others are negative, and they are changed in their direction by reason of their polarity. Why not assume that the same thing is going on in the molecular activity of every cell organism of our body? The little molecules that make

up a nerve cell are continually undergoing these vibratory motions. It is this activity that produces what we know as vital action, and by employing an apparatus like this we are getting to a point where we have a process which we can apply and which will adapt itself to those molecular movements. It shows that we have something or other which is modifying the nutritional activities in the molecular field. Whether or not we have heard the true explanation from Dr. Sterne to-day I do not know. I have used this method in various conditions of the skin and other parts, but not in the manner he has described. There is no doubt, however, but that we can control nutritional activity better in that way than in any other. I feel that I have a therapeutic agent in the high-frequency current that fully meets the requirements.

DR. C. C. HERSMAN, Pittsburg—What effect can we expect from the high-frequency current beyond the point where muscular and nervous tissues fail to respond to its stimulus?

DR. F. W. LANGDON, Cincinnati—Dr. Herdman's statement, if I understood it correctly, was that there was no effect on muscular contraction, but that there may be a marked effect on metabolism without visible contraction.

DR. A. E. STERNE—I have brought up this subject after five years' careful work in this field. The work is still incomplete. I do not entirely understand these phenomena, which I have repeatedly seen demonstrated. I understand the application thoroughly, but I can not explain the demonstration. In acute coryza, with the nasal cavity almost completely occluded, the application of these rays will act exactly like cocain. It will cause tissues to shrink, and I have seen exudates in the pelvis disappear under the action of this tube with the alternating current passing through it. It apparently sets the mass into molecular action, and thereby results in such an amount of energy as to bring about a natural absorption through the circulation.

SOME TOXEMIAS IN RELATION TO THE PRODUCTION OF NERVOUS AND MENTAL DISEASES.*

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There is to-day no specialty in the field of medicine which presents more difficulties and dissensions among alienists and other scientific investigators than the satisfactory diagnosis, comprehension and treatment of disorders relating to the nervous system. Although more than two centuries have elapsed since Hippocrates prepared a foundation for the science of psychiatry, a rational and universally acceptable conception of diseases presenting symptoms referable to disorder in nerve structure or function, has not been reached.

It can not be denied, however, that, when the cause of a certain morbid process is discovered, the treatment of the case can be made more rational and effective. If we as clinicians, would be more thorough and studious in the consideration and investigation of a case, instead of treating it along general text-book rules, the treatment and progress of the disease would resolve itself into a more rational and less difficult problem.

I am in hearty support of less empiricism and of more rationalism in therapeutics. It is often found necessary and more convenient to treat certain disorders symptomatically, but in my chosen specialty I have gained more satisfactory results, through a careful study of the patient as a "whole," than, so to speak, "in parts."

A comprehensive and working knowledge of physiologic chemistry, bacteriology, pathology and physical diagnosis must aid our clinical experience.

AUTOINTOXICATION AN IMPORTANT FACTOR.

Before carrying out the systematic treatment of nervous and mental cases brought to my attention, I ascertain, so far as can be determined, the condition of the various organs and functions underlying the vital processes, and I may safely assert that in general, I have been able to discover at least one organic or functional disorder in the individual, which, if rectified, helped to facilitate a correct diagnosis, treatment and the ultimate recovery of the case.

And this leads us to a concise discussion of the subject of autointoxication as a factor in the production and prolongation of certain nervous and mental manifestations, together with a few words on the development of autotoxemias resulting secondarily from the introduction of poisons of external origin into the otherwise healthy organism.

The views I will here set forth have been gained from practical experience during the past ten years, aided and stimulated by the opinions and observations of other interested workers in this field.

Bouchard and his pupils deserve much of the credit for the widespread interest and practical results which have arisen through a study of autointoxication. Although the statements and theories elucidated by him have not all received acceptance and substantiation, he has prepared the way for a broader and more rational conception concerning the causation of disease in general, and of nerve and mental disorders in particular.

WHAT IS AUTOINTOXICATION?

The conception of autointoxication is not merely an attractive hypothesis, since positive facts have been brought forth in defense of this theory, and new evidences are being adduced from the field of physiologic chemistry, physiology, pathology and bacteriology, thus lengthening and tightening the already large chain of evidence. The accepted definition of autointoxication is a poisoning of the organism by the products of its own metabolism, which substances may be either normal in character, but abnormal in quantity, or abnormal in character.

I wish to state in the beginning that I do not agree with the extremists who strive to ascribe nearly all diseases of nervous origin to autotoxins of some kind or other. In many cases other processes are undoubtedly the productive factors, such as mechanical injury to nerve structures, pressure from tumors, the transmission of a hereditary tendency towards incomplete or defective cell growth or function, etc. The subject is a most difficult and comprehensive one, and we can not be too cautious in accepting conclusions favoring our theory, hastily, and without facts to substantiate the same,

FORMATION OF AUTOTOXINS—LEUCOMAINS.

Bouchard aptly says that the human body is both a receptacle and laboratory of poisons. These are found in the food, are formed during the processes of normal digestion, are formed in the tissues and fluids of the body, and still the healthy individual is not poisoned. There are continually being formed in the body, under normal conditions, certain products resulting from metabolic processes, and if these accumulate in large quantities, disease may result. These substances have been termed leucomains, products formed in the tissues,

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not through the intervention of bacteria, but through fermentative processes or retrograde metamorphosis. Leucomains are basic in character, but their unstable constitution makes it evident that the isolation and identification of these products from the blood and tissues, and their injection into animals for the purpose of eliciting symptoms of poisoning, is a most difficult problem and often impossible of accomplishment.

The leucomains have been divided into the uric acid and the creatinin group, the xanthin bases being representative of the former. The excretions of the human being are toxic, even though the individual partakes only of chemically pure, and bacteria free, air, water and food. These poisons must originate somewhere, and scientific investigation has traced their origin to substances resulting from the disintegration of cells, namely, leucomains. The hydrocyanic radicle is found as a frequent constituent of the leucomains, which may explain a portion of their poisonous action.

While certain organs or cells are occupied in manufacturing poisons, others are engaged either in arresting and excreting these poisons, or in chemically changing them into useful or harmless bodies. On these organs of defence, therefore, rests the responsibility of so disposing of the poisons continually being formed in the body, that the latter may become innocuous to their deleterious action. These organs of defense perform their duties faithfully when all the bodily functions are acting normally and in harmony, and when no excess of noxious matter is introduced from without.

Thus autotoxemias as a rule result from some disturbance between the formation and the destruction or excretion of these internal products of metabolism, there resulting an accumulation of these products in the tissues and circulating fluids. It is the function of certain organs, therefore, not to make it possible for enough toxic material to accumulate in the blood to give rise to systemic disturbances, either acute or chronic in nature.

ORGANS OF DEFENSE.

These organs of defense have been divided into two kinds—those of transformation or arrest, as the liver, gastrointestinal mucous membrane, spleen, lymph glands, adrenals, thyroids, etc. These possess the power of opposing the various foreign and poisonous substances brought to them by the blood and lymph, and of converting them into non-toxic and non-assimilable bodies, or of filtering out and rejecting them entirely, as represented by the liver and its secretion, the bile.

Then we have the organs of elimination, such as the kidneys, lungs, intestines and skin, whose duty it is to remove from the circulating fluids such toxic substances as either escape the organs of arrest or are formed later in the muscles and other tissues.

The present conception of autointoxication is therefore dependent on a disorder of the normal metabolic processes above described, and undoubtedly it supplies a reasonable explanation regarding the origin of many complex neuroses hitherto left unexplained.

PRODUCTION OF STRUCTURAL ALTERATIONS.

That structural alterations are produced in the various organs of the body by the continuous action of these poisons of internal production, especially on so delicate a structure as the neuron, has been conclusively proved. Pathology has demonstrated the retrograde metamorphosis resulting from the action of mineral and vegetable poisons on the organ and cell, and the more recent work of Van Gieson and others has shown us the destructive effect of certain autotoxic poisons on the nervous structure. He has very aptly compared the brain to the kidney in the reaction of its organic constituents and functional power. The renal stroma is likened to the neuroglia, and the parenchyma to the nervous system, and it has been conclusively established that toxic products elaborated through the action of autotoxic bacterial and other external agents, do produce such cell and functional changes.

Autopsies have clearly demonstrated that acute parenchymatous degeneration of the brain caused by toxic agents explains the secondary factor in the causation of many acute mental and nervous diseases, while the subacute and chronic forms are due to a more extensive alteration in the neural parenchyma, caused by the prolonged action of these poisons. For instance, a cortical cell has a well-defined minute structure and function, the granular constituents being the reservoir of cell energy. When death has supervened from secondary causes after severe epileptic convulsions, these cell granules are found to be altered, being broken up through the action of abnormal or toxic substances, the functional indication being an uncontrollable and violent explosion of nerve force in the form of convulsions. If these toxic agents can be removed or decreased, through proper treatment, the cell resumes its normal function; if prolonged, the nucleus and then the entire ganglion cell and characteristic function becomes disintegrated and beyond repair.

VARIOUS SOURCES OF AUTOINTOXICATIONS.

Inasmuch as the majority of nervous and mental disturbances due to autotoxemias have been found to owe their origin primarily to the stomach, intestines, liver, kidney and various glandular organs, only brief mention will be made of other sources of intoxication, as the lungs, skin and circulatory apparatus, the latter reacting more often to toxins originating in the former class. Autointoxications may also occur primarily from disturbed metabolism in the lungs and skin. We will not include the many disorders resulting when the lungs become primarily diseased in structure and function, through bacterial agencies, such as tuberculosis, etc., in which a distinct toxin is formed by a germ and exerts a deleterious influence on the nervous mechanism.

AUTOINTOXICATION FROM SKIN DISORDERS.

Likewise the skin may present exanthemata indicative of a disturbance originating in some other organ, as the alimentary canal and kidneys. I have frequently observed eczematous conditions in chronic nephritis, which improve or disappear as the kidney functions progress under proper treatment. The formation of blebs, urticaria, itching and tingling eruptions, etc., yielding readily to regulation of the alimentary canal, may be observed; but these manifestations must of course be classed as secondary phenomena of a primary autotoxis elsewhere. The lungs and skin may, however, be the primary mischief makers. When placed under improper hygienic conditions, atmospheric and other changes, the lung cells, and in case of the skin, the oil and sweat glands, may not functionate properly, and the various products of disturbed metabolism and the excretory substances may be reabsorbed into the organism, reacting in excessive amount on the nerve elements.

TOXICITY OF SWEAT.

That human sweat is toxic, there can be no doubt, inasmuch as it carries with it waste products from the circulation and tissues. Arloing has performed some experiments on the toxicity of human sweat on the lower animals. He finds that it exerts a depressing influence on the circulatory and respiratory organs, stimulating the vomiting center in the medulla and also causing cachexia. He has found sweating a valuable agent in overcoming autotoxic conditions.

DISTURBANCES IN BLOOD AND CIRCULATION.

A functional inactivity of the nerve and gland terminals in the skin may result from a prolonged action of the retained products of its own secretion and excretion, which may exhibit itself both in trophic and inflammatory disturbances local in character or more systemic through reabsorption. A disturbance in the function of the circulatory apparatus, and especially in the composition of the blood, is both a starting and distributing factor in the origin of autotoxemia. Thus deficient nutrition to the cell, resulting in the production of toxic products from the impaired metabolism, will follow. A persistent tacycardia may be present, while other toxins may have an opposite action in slowing the pulse, probably through their action on the cardiac centers in the medulla, or else directly on the cardiac ganglia themselves. The selective action of certain drugs and poisons for certain centers and tissues alone, leaving other structures undisturbed, is a well-established physiologic observation; autotoxins which either increase or slow the heart rate may have their analogue among vegetable poisons, as in atropin and muscarin. Other anomalies of the circulation are iregularity of the pulse, flushing of the skin, cyanosis, coldness of the extremities, etc. Many of these symptoms may be due, of course, to the action of poisons formed in the various organs, as well as to those originating primarily from a disintegration of the red and white cells and other blood dyscrasias.

Time will not permit me to discuss the action of detrimental products which may result from a changed metabolism in the various glandular organs, such as the spleen, adrenals, lymphatic glands, etc., and I will therefore content myself with a few remarks concerning the salient features of thyroid disturbance.

AUTOINTOXICATION FROM THYROID DISTURBANCE.

The employment of thyroid extract in certain nervous and mental disorders furnishes another link in favor of the autotoxic theory. The thyroid gland pours its colloid secretion into the circulating fluid, and when this is either altered in quantity or quality certain nervous and other symptoms develop, pointing towards a disordered metabolism in the gland. The two theories most widely accepted and substantiated, relative to thyroidal function are, that it either furnishes a secretion essential to normal metabolism, or that it pours some chemical substance into the organism, which acts as an antitoxin to the poisons formed and liberated during metabolic action, and changing or destroying deleterious substances circulating in the blood.

IMPORTANCE OF THYROID IN METABOLISM.

The effect of thyroid extract on metabolism has been conclusively established by Baumann, Horsley, Hutchinson and many others. Laboratory experiments have demonstrated that extirpation of the thyroids and parathyroids in animals, results in characteristic nervous manifestations, convulsions, paralysis, cachexia, dyspnea and death. It has been observed that the thyroid glands are often atrophied in certain nervous and mental troubles, and this led to its employment as a remedial agent. In the palliation and removal of certain systemic disorders no more brilliant results have been obtained in internal medicine than by the administration of this medicament when rationally indicated.

The employment of thyroid extract in cachexia thyropriva, myxedema and cretinism, has given wonderful results. The cachexia, weakness and heaviness in the limbs, dulness of tactile sensations, retardation of muscular action, difficulty in thinking and general decrease in mental and intellectual power, are all either dispelled or greatly improved while administration is continued.

Poehl has performed experiments showing that spermin is found in the thyroid, pancreas, testes, etc., and is at least one of the agents which maintains the oxidation powers of the organism at normal height. In the case of the thyroid secretion, however, it has been practically demonstrated that an organic iodin compound is the active principle. When this latter is isolated from sheep glands and administered to animals on whom thyroidectomy has been performed, there ensues very soon a subsidence of all the nervous symptoms.

Many investigators as well as myself have employed the extract where a disordered or arrested metabolism has been considered to have resulted from disturbance in the thyroidal secretion, with the utmost and surprising and successful results. I have obtained very beneficial effects from its employment in stuporous conditions, melancholia and mania.

A CHEMICAL AND PHYSIOLOGICAL STUDY OF THE URINE IN HEALTH AND DISEASE.

A chemical and physiological study of the urine in health and disease adds corroborative proof to the theory that normal urine is toxic. Laboratory experiments have also demonstrated an excess of toxic material excreted in the urine during and immediately following retrogade cell changes. Bouchard has demonstrated that urine secreted during the hours of activity is more toxic than that secreted during rest. In toxemias there naturally exists a tendency to accumulation of waste products in the body, and a study of the urine therefore offers a splendid field for investigation of the toxic products and the possible reason for their appearance and locality of their origin.

POISONS IN NORMAL URINE.

Although all of his experiments have not been corroborated, it is generally agreed that normal urine contains at least seven isolated poisonous principles which he has experimented with on the lower animals. These consist of a diuretic, a narcotic, organic and soluble in alcohol, a sialagogue, also organic and soluble in alcohol, two convulsants, one organic and insoluble in alcohol, the other a mineral, potassium, a myotic, organic in nature; seventh, a temperature lowering principle, organic, insoluble in alcohol, diminishing heat production.

EXPERIMENTS WITH URINARY POISONS.

He performed extensive experiments on animals, administering through different channels varying amounts of both normal and abnormal urine, as well as each of the seven isolated products, eliciting characteristic symptoms. All of these principles have as yet not been definitely analyzed, and beyond any doubt both normal

and abnormal urine contain still other toxins as difficult of isolation and analysis as are the tetanus and other bacterial toxins.

PUERPERAL ECLAMPSIA.

The most plausible explanation of the exciting cause of puerperal eclampsia is that of an autotoxis. During pregnancy there is certainly a greatly disturbed metabolism, and when the waste products are held back by the excessive work thrown on them, as shown by the frequent occurrence of albuminuria, the retention of these katabolic agents will account for the severe epileptiform attacks. Impaired elimination of the convulsive principles would be also sufficient to produce eclampsia. Von Jaksch has done some work along these lines, and has shown the convulsive effect of acetone and its presence in the urine during the later stages of pregnancy. He even goes so far as to describe a typical "eclampsia acetonica."

URINE IN EPILEPSY.

An examination of the urine in epilepsy has developed some valuable facts. That certain otherwise unexplainable forms of epilepsy are due to poisonous products of disturbed metabolism is the present consensus of opinion of Futcher and other interested investigators. Experiments showed that the urine of certain epileptics is hypertoxic about the time of the attacks, its tenacity being much greater than during the interparoxysmal period. Deutsch, Jaksch, Wyner, Kranisky and others report cases of epilepsy due to the periodical formation of acetone and ammonium carbonate.

Hippocrates was the first to relate the fact that the intercurrence of an infection or fever frequently suspended epileptic attacks for a time. Bourneville, Toulouse, Marchand and others have written careful observations concerning the most common infections, which have suspended epileptic attacks for a time, some cases being permanently benefited. Pneumonia, erysipelas, malaria and typhoid fever have been found to result in benefit to the primary disturbing disease process. An explanation for this might be that during the occurrence of these infections, bacterial toxins acted detrimentally on the cell structure, katabolic processes resulting thereby. During recovery from the infection, anabolic processes resulted; the cell was rebuilt and returned to a more normal condition. The toxin which originated epileptic attacks during the primary disordered metabolism, was thus either neutralized by or eliminated with the bacterial poison.

URIC ACID DIATHESIS.

A study of the urine in neural disorders would not be complete without a reference to the uric acid diathesis. I have found an increase of this excretory product in the blood and urine of many cases under my supervision. An increase of this leucomain is discovered to be the disturbing factor in many forms of disordered metabolism. Uric acid is closely related to the xanthin bases, and both are derived from the nucleins contained in the cell protoplasm. The xanthin bases result from a decomposition of tissues rich in nuclein; but the nucleins must first be partially oxidized before being decomposed in order to split off the uric acid.

Uric acid must therefore be considered as a specific waste product of nuclein decomposition. The term "collemia" has been applied to the presence of large amounts of uric acid in the circulation. An excess of uric acid has continually been observed in such disorders as neurasthenia, migraine, epilepsy, chorea, etc., especially immediately after the attacks.

We have here a clear demonstration of an autotoxemia, a nutritional disturbance resulting from faulty metabolism, brought on by unhygienic influences, errors in diet, excessive consumption of alcohol and nitrogenous food, etc. As resulting symptoms, we see headache, neuralgia, melancholia, lack of thought concentration, depression, mental irritability and excitability. The benefit obtained following the neutralization or elimination of the excessive uric acid, strengthens the conclusion that this is the disturbing waste product.

RELATION OF DIABETES TO AUTOTOXEMIA.

Certain forms of diabetes are among the concomitant manifestations of neurotic disorders. Where no other definite causes can be disclosed, it can be reasonably suggested that there is present a faulty metabolism located especially in the pancreas, so that the glycolytic ferment is not properly poured forth as regards quality and quantity. Dependent on this, the glycogen can not normally be assimilated into the organism. Extirpation of the pancreas in animals results in glucosuria, which strengthens our belief that the pancreas pours a glycolitic ferment into the circulation. There is certainly present an extensive disturbance in cell function, as shown by the large increase in the urine, of b-oxybutyric acid, aceto-acetic acid and acetone—all evidences of increased protein destruction. The presence in the circulating fluids of these bodies may account for many of the neurotic symptoms, as headache, neuralgia, numbness, delirium, and the symptoms of diabetic coma, somnolence, dyspnea, etc.

The similarity of the attacks to uremia would indicate the presence of some autotoxin in the blood. The most widely accepted theory that this substance is acetone, is substantiated by the presence of large quantities in the urine and its odor in the breath. The fact must not be ignored, however, that the preliminary poison causing a disturbance in the pancreatic metabolism may originate from poisoning through intestinal toxemia.

UREMIC AUTOTOXINS.

Uremia is undoubtedly the result of an autoxemia, but what the toxic agent is and how it acts has not yet been satisfactorily demonstrated. The symptoms which may occur in uremia, such as convulsions, headache, restlessness, delusions, maniacal and melancholic states, local paralyses, itching of the skin, numbness, tingling in the fingers, etc., are all suggestive of a toxic agent as the malefactor.

Bradford, in his Goulstonian Lectures for 1898, has gone into the subject of uremia extensively, and comes to the conclusion, deduced from careful laboratory and clinical experience, that the toxic substances which are present are not the retention products resulting from normal metabolism, but that there is formed an abnormal product of a disordered metabolism, which is poured into the circulation. What this substance is, investigators have not as yet fully agreed upon. It has been found that the percentage of urea is greatly increased in many cases of chronic nephritis with uremia, but it is probable that more than one toxic agency is at work, to account for the formidable symptoms developed. Here, again, as in diabetes, poisonous products absorbed through intestinal toxemia may originate the manufacture of the uremic poison.

THE GASTROINTESTINAL CANAL A FREQUENT SOURCE OF AUTOINTOXICATION.

The gastrointestinal canal is the most frequent source of autointoxications. As a result of disorder here, ptomains and other products may result, which, in turn, after absorption, may be the starting point in the manufacture of leucomains, if they themselves are not directly the irritating agents. The production of fermentation and putrefaction, the former mainly in the stomach and the latter in the intestines, results in many of the human ills and nervous wrecks which our congested civilization exhibits. The gastric fermentation follows the excessive ingestion of carbohydrates, while putrefaction depends on the presence of albuminous bodies for its existence in the intestinal tract.

AUTOTOXINS IN GASTRIC FERMENTATION.

Among the deleterious products formed during gastric fermentation, which, if absorbed, may disturb normal metabolism, are lactic, butyric and acetic acids. The intestines, however, on account of varied ferments and the presence of albumins which favor the multiplication of the anaërobic bacteria and their products, furnish the most varied number of toxic principles harmful to the organism after absorption. Extensive experiments have been conducted in the isolation and investigation of these agents and their subsequent injection into animals for the purpose of eliciting toxic symptoms. Foremost among these investigators are Brieger, Selmi, Gautier and Buchner.

Among the substances found following albuminoid putrefaction, may be mentioned ammonia, cystin, hydrogen sulphid, leucin and tyrosin, representative of the amido acid series; a group of aromatic bodies, derivatives of benzol, phenol, cresol, indol, skatol, etc.; diamins, such as Brieger's cadaverin and putrescin. The latter brings us to a discussion of the ptomains, the most important products resulting from intestinal decomposition. A ptomain may be defined as an organic chemical product, basic in character and formed by the action of bacteria on nitrogenous matter. Although these ptomains result from saprophytic action, disturbances following their absorption may still be classed as autogenous, since the lower forms of vegetable life which act on the albuminous contents of the intestine are normally present during the life history of the human organism.

WHAT ARE PTOMAINS?

The name ptomain was first applied by Selmi to these organic basic substances. They may be called the putrefactive alkaloids. Not all ptomains are poisonous, however. He performed extensive experiments and demonstrated the fact that animal alkaloids quite similar in constitution and action to those from the vegetable kingdom, might be produced in cadavers as well as in the intestinal canal. Many of these ptomains resemble in chemical reactions strychnin, atropin, morphin and other vegetable alkaloids. During a celebrated trial in Italy, where the prosecution endeavored to make out a case of strychnin poisoning, the prisoner was acquitted on the testimony of Selmi that the base present was cadaveric in origin.

EXPERIMENTS ON LOWER ANIMALS.

Many experiments have been employed on the lower animals for the purpose of eliciting, if possible, symptoms similar to those observed in intestinal toxemias. I can not enter into a description of the many investigations carried out along this line, though careful observers have demonstrated that autotoxins isolated from the alimentary canal cause symptoms similar in animals to those observed in human beings. Treatment further demonstrated that the removal of these toxic products resulted in a cessation of symptoms of disorder. The intestinal excrements were extracted with various reagents, and after purification so far as possible, the various constituents were administered to animals through different channels.

The absorption of indol is responsible for many of the disorders referable to intestinal toxemia. Herter has performed some interesting experiments with this substance. When given in continued doses to a rabbit, for some time, emaciation results. When a solution of indol was injected into the animal's intestines there resulted contraction of the pupils, muscular twitching, cardiac weakness, feeble respiration and general depression. Three men took small doses of indol for experimental purposes, beginning with 1 gr. Dull headache resulted. Larger doses produced severe colic and diarrhea in one. Another experienced great discomfort, intestinal flatulence, headache and insomnia. The third had the same symptoms, only more severe. The reaction for indoxyl and the ethereal sulphates was greatly increased in the urine. All of the cases showed exhaustion.

A study of the urine naturally confirms the absorption of intestinal toxin, inasmuch as after their absorption, they are more or less transformed in the body, and then increased elimination of the end product above normal occurs in the urine. The presence of various foreign substances in the urine may therefore lead to the discovery of their method and locality of production. The presence in comparatively large amounts in urine, of benzoic acid, the ethereal sulphates—indoxyl and skatoxyl, phenols and cresols, cystin, leucin and tyrosin, acetone, aceto-acetic acid, b-oxybutyric acid, etc., all refer to some alimentary toxemia or a disorder in metabolism directly referable to it. Singer has found almost regularly, in skin diseases associated with digestive disturbances, an increase of the putrefactive products absorbed, as shown by the excretion of an increased amount of ethereal sulphates in the urine.

Space will allow the discussion of only several alimentary disorders which have been clearly proven as the irritating influences in the origin of many nervous and mental disorders, especially those of a neurasthenic and hypochondriacal character. I will refer briefly to the so-called nervous dyspepsia, dilatation of the stomach, and constipation.

NERVOUS DYSPEPSIA.

Nervous dyspepsia is a form of indigestion marked by the manifestation of nervous and other symptoms directly referable to gastric disorder as the instigating factor. There is usually present a feeling of malaise, headache, dizziness and insomnia. Hysterical and neurasthenic symptoms may appear. The etiologic factors at the base of this can very often be directly attributed to faulty hygiene and errors in diet. As a result, too much work is thrown on the stomach, and there results either an increase or decrease, or entire absence of free hydrochloric acid to carry on normal digestion. Thus an interference with nutrition follows, and gastric digestion is either carried too far or not far enough, as a result there being an absorption of these sub-end products of gastric digestion. These in turn may be the starting

point in the manifestation of nervous symptoms, directly or secondarily through the production of leucomains.

As a result of fermentation, lactic and butyric acid, eructations of gas, etc., may take place, due to the work thrown on the digestive organ. These products after absorption are responsible for the headache and oppression.

Peptones and albumoses formed during digestion do not normally reach the general circulation as such. Injection of these substances into animals lowers blood pressure, depresses the heart, and destroys the coagulability of the blood. Lauder Brunton attributes the weakness, languor, dullness in the head and depression after a full meal to poisoning with peptone. Its detection in the urine proves its entrance into the blood.

DILATATION OF THE STOMACH IN NERVOUS DISORDERS.

Dilatation is frequent among the gastric disorders productive of nervous symptoms. Errors in diet are again the main causative factors. A diminution in mental and physical vigor ensues. Among the characteristic symptoms are headache, insomnia, vertigo, undue sensibility to cold, and in one case which I have observed especially, during the morning hours there was a confusion of ideas, incoherence and obscuration of sight. A study of the urine showed an increase of urates and acidity, and the presence of peptones. Among intestinal disorders, constipation is foremost in favoring the production and absorption of toxic products. The term copremia has been applied to this condition, and the symptoms characteristic of this are well known, such as dizziness, lassitude, headache, insomnia, hypochondriasis, neuralgias, etc.

The majority of these symptoms are probably due to the absorption of the putrefactive products arising from the retained feces. This is demonstrated by the increased transference of the products of putrefaction to the urine. Chemical examination of the urine discloses the presence usually of indican.

TETANY AN AUTOTOXIS.

The history of tetany can usually be traced to some gastrointestinal disorder, and Albu, in his admirable discussion on this subject, asserts this disease to be a most brilliant example of a gastrointestinal autointoxication. Most of the cases may, if carefully investigated, be traced to some form of gastritis, acute or chronic, dilatation of the stomach being the most common disturbance. Albu obtained from the urine of certain cases the salt of an alkaloidal-like body, which was always present during tetany attacks, but never during free periods. The injection of this in animals produced an artificial tetany.

AUTOINTOXICATION FROM SEPTIC DISORDER.

Autointoxication from the gastrointestinal tract is closely related to poisoning directly referable to the liver. Self-poisoning may take place either from a disturbance of the liver parenchyma itself, by poison generated within itself, or through the secondary action of poisons received from the intestines, which may enter the circulation without the protective and destructive action of the hepatic function being exerted.

In consequence of interference with hepatic function, carbohydrates are not properly stored as glycogen, the formation of urea, the best diuretic, is interfered with and the antecedent bodies of the amido acid series, leucin and tyrosin, are excreted into the blood, as shown by their detection in the urine. Various hepatic disorders, such as atrophy and cirrhosis, may interfere with its normal function. Cholemia is a fruitful source of nervous manifestations, and results when the constituents of the bile are passed into the blood. Following the absorption of bile salts and coloring matters (bilirubin) into the blood, certain definite symptoms ensue. General fatigue, ill humor, cerebral exhaustion, sleepiness, bradycardia, itching and often disturbances in the senses of hearing and taste may often be directly traced to disordered hepatic metabolism.

The injection of comparatively large quantities of bile salts and bilirubin into the lower animals have been found to produce somewhat similar symptoms. It has been found that bile salts dissolve and break up the red blood cells and other body cells. Hemoglobin thus becomes diffused more or less into the blood, and as a further result following the setting free of toxic elements entering into cell constituents, intoxication follows.

Ordinarily and if unobstructed in its passage to the intestines, the bile becomes insoluble and is excreted. It has been demonstrated, however, that if all the bile could find an entrance into the circulation, the individual would be poisoned by his own bile in eight hours.

TOXINS OF EXTERNAL ORIGIN—ALCOHOL, SYPHILIS, OPIUM.

In discussing the agents of external origin which are most frequently productive of nervous and mental disorders and which in their remote and direct effects are the etiologic factors causing the largest percentage of admissions to our asylums, space will only permit me to dwell briefly on three—alcohol, syphilis and opium. Other infections and drugs might be mentioned, and even coffee, tea and tobacco might be included in their share of censure in the production of neurasthenia and other nervous disorders, but undoubtedly these three head the list. I desire to include these agencies in my discussion, since many of the symptoms characteristic of alcoholism, syphilis of the nervous system and morphinomania, in both their acute and chronic stages, are due, not to the direct action of the external and primary poison itself acting on the nervous structures, but secondarily to an autointoxication resulting from a disturbed metabolism, the resulting products of katabolism being retained and reacting on the nervous and other structures.

ALCOHOLIC AUTOTOXIS.

In order of importance as an etiologic factor, alcohol heads the list of external toxic agents influencing the nervous system detrimentally. The immoderate use of this beverage, prolonged over some months or years, will produce definite pathologic changes in neural and other tissues. An enumeration, however, of the most important morbid changes in organic structure, must convince one, whether the alcohol has been entirely removed or not, that a secondary self-intoxication is responsible for the peculiar mental and other symptoms which appear.

Among the most important pathologic findings are accumulation of fat cells in various organs, fatty degeneration of the heart, muscles, liver, kidneys and brain parenchyma, proliferation of connective tissue, cirrhosis of the liver, sclerosis and atheroma of the arteries and atrophy of certain organs. Nutrition becomes impaired, owing to vascular changes and disordered metabolism. Alcohol has a specific action on the neurons, shown by a disappearance of the chromatin granules and shrinkage of the entire cell. In the later stages the finer

dendrites disappear entirely. The peripheral nerves are also acted on, neuritis and eventually localized paralyses resulting. To what extent these lesions are caused by the alcohol itself and by the poisonous products of katabolism, it is at present difficult to determine.

As a result of the alcoholic poison, indigestion, fermentation and dilatation of the stomach, etc., occur. Many of the symptoms of gastrointestinal autotoxis are present, even after a lengthy discontinuance of alcohol absorption. The furred tongue, heavy breath, loss of appetite, constipation, etc., are all indicative of the action of absorbed intestinal poisons.

Among the mental symptoms observable in subacute and chronic cases may be mentioned loss of memory and of self-control, incoherence of ideas and expression, irritability of temper, impairment of judgment, insomnia, headache, delusions and hallucinations, tremor, convulsions and general lassitude. Is it not probable that many of these symptoms may be due to autotoxic products being formed through the disordered metabolism resulting from the primary ingestion of alcohol?

In mania a potu the characteristic symptoms, such as restlessness and depression, insomnia, tremor, hallucinations, increase in temperature to 102 or 103 degrees, the frequent and feeble pulse, dry tongue and delirium may be more clearly assigned to autotoxemia as the productive agents than to any other factor.

SYPHILITIC AUTOTOXIS.

There is no disease of mental or nervous character which presents symptoms referable to the action of toxic agents more conclusively than does syphilis. The primary stage is practically devoid of systemic manifestations, probably owing to the fact that the body cells are holding their own, so far as possible, in their fight against the invasion of the luetic virus. When the latter gains the upper hand, however, secondary symptoms set in, with the production of definite pathologic lesions, the third stage being a result of unobstructed degenerative changes to the organic and functional properties of the cells acted on.

The syphilitic virus seems to have a selective activity on nerve structure, comparable to the specific action of certain drugs on special organs and tissues. Nutritional and vasomotor disturbances complicate the mental aspect of the case.

The pathologic alterations are quite definite and easily demonstrated, such as gummatous deposits in the brain and cord, meningitis and arteritis, sclerosis, bone lesions, splenic enlargement, gummata of the liver and kidneys, etc.

It has been clearly demonstrated that after a variable length of time, the luetic poison becomes eliminated from the system, but not so with the autotoxic poison. Certain definite symptoms arise, such as mental dullness and irritation, melancholic alternating with maniacal stages, intense headache, loss of memory, of thought concentration, etc. Many of these symptoms can only be traced to the action of autotoxic bodies resulting from the katabolism following the action of the luetic virus, and reacting on the neural tissues, whether they were disturbed by the luetic poison or not.

AUTOTOXIS IN MORPHINOMANIA.

The symptoms of chronic morphinism may be beyond doubt ascribed to an autotoxis primarily caused by the absorption of a poison in larger amounts than the body cells can readily take care of and excrete. No definite nor reliable pathologic tissue changes have been discovered to account for the characteristic mental symptoms, which seems to strengthen the idea that gastrointestinal autointoxication and retrograde tissue changes are to blame for the majority of symptoms.

Chronic opium ingestion will produce, as symptoms resulting from a depressant action on the nervous structure, indigestion, constipation, sluggishness of the liver, dizziness, sleeplessness, neuralgias and tremors, hallucinations of sight and hearing; both variable and fixed delusions are characteristic mental symptoms and are present during ingestion of the drug, as well as long after its discontinuance, before the various vital organs and functions have had sufficient time and opportunity to recover their normal organic structure and function.

The invariable presence of indigestion, constipation and liver torpidity, suggests the formation of autotoxic poisons, elaborated from these organs and acting as the direct, causative agents in the production and prolongation of the mental symptoms. In addition, a study of the blood shows a deficiency in the hemoglobin and red cells, together with an alteration in the form of the latter, which I have found to be crenated and granular.

As a result of this blood dyscrasia, the cells and tissues receive improper and insufficient nourishment, oxygenation is lessened and changed metabolism results, together with its varied manufacture of autotoxic poisons and resulting mental symptoms.

CLOSING REMARKS.

It is the opinion of alienists in general that the proper and vigorous treatment of mental and nervous disorders in their incipiency would lessen to a great extent the number of admissions to our asylums. My experience in both asylum and private hospital work has confirmed my views that the rational treatment of many acute and subacute cases along the lines of deduction set forth in the preceding discussion will result in unexpected benefit and often remarkable recoveries. The confirmatory proofs accruing from treatment along the lines I have set forth will help to complete the chain of direct and circumstantial evidence that the conception of autointoxication when applied to many cases is no longer a mere theory, but a well-substantiated fact.

The precipitous onset of certain mental and nervous disorders may perhaps in some cases be made clear by a comparison to the symptoms of sudden poisoning following the administration of certain drugs, as for instance, digitalis. The clinical picture of digitalis action is usually slow in appearing and disappearing, and if administration of the drug is not carefully watched and guarded, acute symptoms of poisoning set in. This is due to the fact that the drug is slowly absorbed and as slowly excreted, so that incautious administration will precipitate signs of acute intoxication through the mass action of the latent drug.

The field is broad for further and more accurate work, and I wish my exposition of this subject to be considered only a step toward the solution of the many formidable problems still unsolved. The wonderful developments in biology during the past ten years, especially among the pathogenic bacteria, their toxins and antitoxins and their chemistry, method of formation and action, should stimulate us to still more earnest work.

I will endeavor to set forth in a future paper the lines of treatment I have followed in conducting the treatment of certain mental and nervous afflictions, exhibiting the various forms of autotoxemia elaborated in the preceding discussion.

THE OCULAR COMPLICATIONS OF BRIGHT'S DISEASE.*

LOUIS STRICKER, M.D.
CINCINNATI.

GENERAL STATEMENT.

The eyes become involved as a result of the general systemic conditions arising in Bright's disease. These systemic conditions, briefly considered, are the result of faulty kidney excretion, leading to the retention of urea or other excrementitious substances in the blood. These retained products are either poisonous in themselves or secondarily lead to the formation of toxins, thus producing inflammatory and degenerative changes in the vessel walls and the tissues of the body; or they may interfere with the proper conversion of the elements of food into those favorable for assimilation by the cells of the body, thus producing anemia and hydremia. To this abnormal condition of the blood is attributed the general arteriofibrosis, which finds its expression in hypertrophy of the heart and general increased arterial tension, leading to exudation and hemorrhage or total occlusion of the arterioles, with subsequent death of the parts cut off.

In the eye we find the vascular system (the choroidal and retinal vessels) and its nervous expansion (the optic nerve and retina) most frequently involved, although its media, the aqueous, lens and vitreous, may be secondarily affected. Paralysis of ocular muscles may follow as a result of cerebral involvement. All of the conditions are observed clinically, as hemorrhages, inflammations and degenerations.

The hemorrhages are due to the combined influence of arterial degenerations and increased arterial pressure. The inflammations and degenerations follow in the wake of improper nutrition and presence of toxins.

As a rule, as in all constitutional affections, ocular involvement is bilateral, but in some cases only one eye is primarily affected, and active treatment may so control vascular and nutritive conditions as to prevent the second eye from becoming affected. Ocular involvement is met with at all times of life, and may occur during the progress of acute Bright's disease, the Bright's disease of pregnancy, chronic parenchymatous and chronic interstitial nephritis. The majority of cases have been attributed to the last-named.

No doubt, many cases of Bright's disease develop ocular symptoms which are never discovered, as neither choroidal nor retinal disease causes pain, and unless the functional disturbances are prominent they are allowed to pass without further investigation. On the other hand, the oculist is not infrequently consulted for failing eyesight and makes the first diagnosis of Bright's disease.

In the acute forms, however, as a result of the rapid accumulation of toxic products in the blood, we find the nervous tissue of the eye more especially involved, and these cases are distinguished by the severe and diffuse character of the pathologic changes, from which the tissues may or may not be able to recuperate.

In the subacute forms it has been held that the changes are due to an interference with the nutrition in consequence of alterations in the vascular system. These vascular changes are attributed to toxic influences, but here likewise I believe that the toxins or other retained excrementitious substances play a more directly important rôle.

In these two forms of the disease we find either a diminished or normal quantity of urine and large quantities of albumin, and it has been inferred that the loss of albumin is responsible for improper nutrition. But this would not in any way explain the cases of chronic interstitial nephritis, in which the eye symptoms are said to occur most frequently, and in which we find large quantities of urine and only a trace or absence of albumin. So that in chronic Bright's disease we seek the cause of the ocular symptoms in the retention of excretory products in the fluids of the body which, acting as an irritant or a toxin, produce inflammatory and necrotic changes.

These excretory products, though constantly present in Bright's disease, in the beginning are not so in overwhelming quantities, and the tissues may be able to adjust themselves to changing conditions (a possible reason why all cases of Bright's disease do not develop retinal and choroidal changes), but in some a point is reached where the intoxication becomes excessive and the tissues react to the influence of irritants or poisons, and gradually succumb to permanent changes which are not easy to combat and offer a very unfavorable prognosis.

So that it seems rational to ascribe the ocular changes, especially choroidal and retinal, in all forms of Bright's disease to the same cause; namely, some constituent of the urine which is not excreted, but is retained in the blood, and acts as a chemical irritant or a toxin.

What the chemical nature of the products retained in the blood are, is as yet unsolved, but in all probability is connected with an improper elimination of urea. Since I have fixed my attention on this subject, I have found in a number of cases of Bright's disease, independent of the variety, a diminution of the urea quantity in the urine; that is, a retention of urea in the blood. In other words, the ocular symptoms are evidence of acute or chronic uremia. And we may place in the same category the cases of uremic amaurosis, in which the lesion or irritation is in the brain.

All text-books are vague on this subject. No attention is drawn to the fact that the seriousness of the case is not to be gauged by the loss of albumin but by the degree of auto-intoxication from retained excretory products, and that as yet we can do this only by a study of the percentage of urea in the urine.

So far as I know, no one has yet attempted to show that in all cases of choroidal and retinal disease accompanying Bright's disease there is less urea excreted, nor has a study of the relationship between diminution of urea quantity in the urine and the simultaneous increase of the severity, or even the presence of ocular symptoms, been made. We do know, however, that where the skin can be made to do the work of the kidneys vision does improve, though it be only for a time, since the control of eye symptoms depends on our success in controlling the kidney disease.

If this view that all cases of ocular involvement are due to chronic uremia and show a diminution of urea in the urine should be proved correct by observations in larger numbers of cases, it would also explain the reason for the comparatively rapid fatal outcome of nearly all, if not all, these cases.

The question would naturally suggest itself, how long a time after changes have taken place in an eye can a favorable outcome be expected? I should take it that vascular changes and exudates offer a better prognosis

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than changes in the nervous elements, the impairment of which, if degenerative, is permanent.

The degenerative changes are usually so matted in exudates that when these are cleared away the results are often better than hoped for. Rods and cones cut off from their nutritive supply for three or four weeks can not be restored, nor will ganglion cells take on new life. A degenerated vitreous can not be restored, nor will lenticular changes and opacities be resorbed. So that the degree of vision ultimately to be retained depends entirely on the degree of insult to the globe before the patient comes under observation, the energy with which treatment is pushed, and, finally, the form of the disease, since better results may be expected from acute than chronic processes.

The ocular symptoms of the Bright's disease of pregnancy cause special concern. We are confronted here not only with the possibilities of a spontaneous abortion and the dangers to the mother incident to such an occurrence, but we are called on to decide whether it is justifiable to produce an abortion to save the eyesight of the mother, since it is well known that the kidney disease in such cases subsides quickly after labor is terminated. Ocular involvement in pregnancy indicates latent, but more serious possibilities, namely, puerperal convulsions, uremia and death.

In pregnancy, where albumin is found in the urine, the eyes should also be examined. The ocular lesions are but more delicate and sensitive reactions due to widespread intoxication, to which the whole nervous system is undoubtedly also subjected. An estimation of urea at this time becomes a matter of special importance, and where this falls below the normal the time for active interference has arrived. The estimate should be made with special attention to diet and quantity of fluid ingested for 24 hours.

Where the pathologic changes in the retina are not great, pregnancy far advanced and urea quantity nearly normal, one may temporize, but where widespread exudates and degenerative changes are taking place, urine loaded with albumin and urea quantity low, I believe labor should be induced not only to prevent permanent serious impairment of eyesight, but equally because the eye symptoms indicate the seriousness of the general condition and the possible fatal outcome of the case.

Whereas, in Bright's disease, both acute and of pregnancy, we may look forward to a certain degree of clearing up of the media and an absorption of exudates, so that we meet with partial, at times even complete, restoration of function, and the prognosis is favorable, in chronic forms the eye symptoms, as a rule, follow in the wake of nutritive disturbances of long standing, the degenerative changes are gradually induced and are premonitory symptoms of approaching dissolution. Various authorities place the time of life after retinitis sets in in the chronic form of Bright's disease at from three months to two years as the ultimate limit. I have seen death ensue within twenty-seven days after retinal degeneration was recognized. Only a small percentage of cases of Bright's disease (5 to 6 per cent.) develops ocular symptoms, but where this occurs it is always an ominous sign and a signal for active treatment.

The treatment of the ocular conditions of Bright's disease has for its object the furtherance not only of the elimination of toxic substances from the system and the general improvement of the nutritive conditions, but purposes a rapid interchange of fluids, so as to bring about a rapid resorption of noxious fluids and exudates in the eye. This is accomplished by stimulating or controlling the heart's action, by the drinking of large quantities of water, so as to flush the kidneys and dilute the poisons; to rid the system of the latter by active purgation, and, above all, by active diaphoresis, to cause the skin to do the work of the kidneys. Diaphoresis is of paramount importance. It is remarkable how quickly vision clears up on use of Turkish baths, where patients can get them, or by the use of a hot pack. (Pilocarpin injections are used, but are very depressing to the heart action.) The baths must be taken at least three times a week, and where the physical condition permits of it, every day. The hope of attaining good vision depends entirely on the rapidity with which we secure absorption of exudates, rid the system of poisonous substances retained, and on our success in improving the general nutrition.

RESUME OF CASES.

Of 16 cases of the severer forms of the ocular complications of Bright's disease under my care 5 were cases of optic neuritis, 3 of neuroretinitis, 2 of neuroretinitis hemorrhagica, 2 of neuroretinitis and choroiditis, 1 venous thrombosis, 2 uremic amaurosis and 1 keratitis, in all probability a general uveitis. Seven cases had previously had medical treatment; only 5 were referred to me; so that in 11 cases attention was drawn by the ocular conditions to the true character of the disease.

Two cases occurring during the progress of pregnancy might fairly be considered as acute Bright's disease, and both are living. In one case vision has been greatly impaired, the woman having aborted in the seventh month. The other, a case of general uveitis, went to full term and was delivered of twins, and sight was fully restored.

Four were cases of chronic parenchymatous nephritis subsequent to la grippe, typhoid and measles. Three of these died, and there is no doubt in my mind that the fourth case died, though he passed from my observation. All of these cases showed more or less edema of their lower limbs, and two of them showed enormous hypertrophy of the heart, the whole left side fairly quivering with each pulsation.

All of them had a large percentage of albumin in the urine, and in two of them the urea quantity was found below the normal, and in one, though the urea quantity was not estimated, the patient had had uremic convulsions before I saw him.

Ten were cases of chronic interstitial nephritis. Two of these were in all probability of syphilitic origin; 1 was due to tubercular kidneys; 1 to general atheroma and senility; in 6 no cause could be assigned. Two of the latter (8 and 12) had no history of ever having been ill, while three had been treating for Bright's disease for periods of from 2 to 6 years. All had a greater or less degree of hypertrophy of the left ventricle, and showed traces of albumin; 1 case had had uremic convulsions, and 4 of the others showed a diminished urea quantity.

Seven of my cases died, the shortest period being, in one case, five days, in another twenty-seven days after coming under observation, the longest period being one year and three months. In 8 cases the urea quantity was below the normal; 2 had had uremic convulsions before I saw them.

Four cases passed from observation and the subsequent history is unknown, and 3 cases are living, the two cases complicating pregnancy and the one of retinal venous thrombosis.

Two cases had had apoplectic seizures previous to the development of the ocular symptoms.

Two cases have come under observation within the past month and are still living.

CONCLUSIONS.

1. There are no ocular complications of Bright's disease from which, independently, a positive diagnosis of Bright's disease can be made. They should direct our attention to the probability of Bright's disease and lead to systemic examination.

2. The prevalent idea that one must find the characteristic picture of Bright's disease, with hemorrhages and areas of degeneration and white splashes in the region of the macula, is a mistaken one, since one may meet with any of the many manifestations of vascular or retinal inflammation due to the action of toxins.

3. Only a small percentage of cases of Bright's disease develops ocular complications, but if larger numbers of cases were systematically examined it is more than probable that a much larger percentage would be found to have ocular lesions, which have not caused functional disturbances, and consequently have been overlooked.

4. All the ocular complications of the disease are the result of altered nutrition, or toxemia; in other words, a chronic uremia.

5. Diseases of the eye coming on in the course of Bright's disease are of the most serious prognostic import, and indicate an early dissolution of the patient.

6. In the acute form conditions are of a more hopeful character, though a prolonged siege, with inability to stay ocular disease, can not fail to leave the patient, though he recover, with greatly impaired vision.

7. An estimation of the urea quantity made from a total amount of the urine of 24 hours, under proper diet, is the barometer by which we are to be guided in determining the early or immediate fatal outcome of the case.

8. In the Bright's disease of pregnancy, with ocular involvement, a low urea quantity should be a positive sign for immediate interference, and should justify artificial abortion both to save the eyesight as well as the life of the mother.

9. In cases of Bright's disease disclosing choroidal and retinal changes I have found the urea quantity in the urine below the normal; and it seems more than probable that the urea or other excrementitious substances retained in the blood, due to faulty kidney excretion acting as chemical irritants or toxins, are directly responsible for the inflammatory or degenerative changes.

ILLUSTRATIVE CASES.*

OPTIC NEURITIS, CHRONIC INTERSTITIAL NEPHRITIS.

CASE 1.—Mrs. L. G., 57 years of age, came of her own accord, Dec. 22, 1902, owing to a sudden diminution in her vision. She has had two children; one died in its eighth year. The son is living and married. She has had some severe spells of illness; did not walk for six years, and states that she had peritonitis and has had an ischiorectal abscess. Is nervous and constipated, but has had few headaches. For the past two years her heart has troubled her considerably. A year and a half ago she had a stroke of paralysis of her entire right side, including an anesthesia of the right side of her face. Improvement began in the leg in a few days, but the arm and hand have never fully regained their strength. She had no aphasia at that time. From the time of her paralysis, she states that her vision was poor, and she found great difficulty in reading and sewing, but did not consult an oculist at that time. Her right eye, she says, has since that time been of little use to her, but the left eye has only been failing during the past week.

Examination.—She appears fairly well nourished, but says her weight has fallen in the past two years from 160 to 126 pounds. Her eyelids are markedly swollen, but no other signs

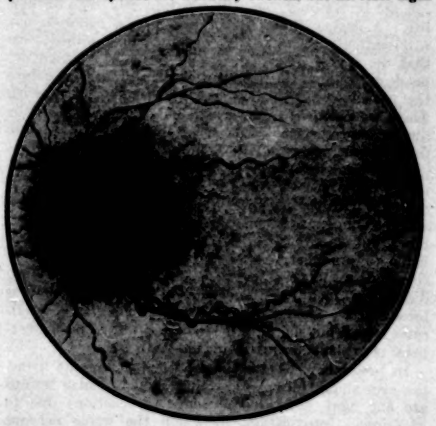

Fig. 1.—Case 1. Optic neuritis, left eye.

of edema could be found in other portions of her body. The heart is enlarged; pulse strong and full, 100 per minute, and at times intermits and gets tumultuous. Heart extends one-half inch beyond the nipple line.

An examination of her fields of vision disclosed on the left eye loss of the entire nasal and lower segment of 150 degrees,

Fig. 2.—Case 2. Optic neuritis, right eye.

and the remainder of the field is contracted down to 30 or 40 degrees, and this is extremely hazy, but in the retained segment colors are faintly recognized.

On the right eye only the upper nasal quadrant, including the region of the macula, is retained, and this likewise is contracted. This loss of the nasal half of the left eye and the

* The illustrations are the work of the author, made from sketches taken by the direct method.

temporal half of the right eye would lead one to suspect a hemorrhage in the visual center on the left side at the time of her paralysis a year and a half ago, and this, I should take it, is entirely independent of her present illness, and this is partly borne out by the ophthalmoscopic examination, in which we find the left eye disclosing a pronounced neuritis, whereas, in the right eye, the disc is plainly visible and gives one more the impression of an optic atrophy. The consensual and direct reaction of the pupils is somewhat slow, though intact.

Ophthalmoscopic Examination, Left Eye.—Vitreous slightly hazy, through which, however, the entire fundus is visible. The disc is markedly swollen and enlarged to double its size, and appears as a deep hyperemic area which is gradually lost in the retina. It has not the characteristic fire-brand appearance, but very few enlarged capillaries being noticed on the surface. It has more the granular appearance. The arteries are normal in size, sharply outlined. The superior, however, can not be traced to their origin in the disc, but seem to emerge far out on the retina proper. The veins are double their normal size, extremely tortuous. A few striated hemorrhages are visible in the upper inner quadrant in the hyperemic area, close to the disc. Nowhere on the fundus can any signs of retinal degeneration or conglomeration of white exudates be observed.

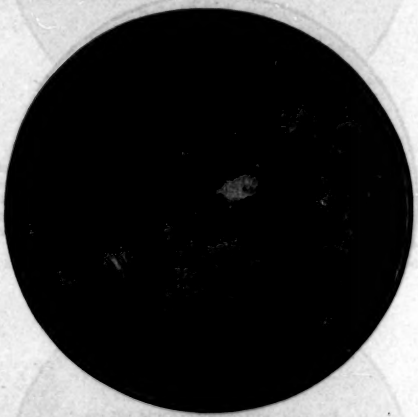

Fig. 3.—Case 2. Optic neuritis, left eye.

Right Eye.—The fundus is veiled by vitreous opacities, but nevertheless the disc is distinctly visible and sharply outlined, with the suggestion of a bluish cast. There is just the slightest suggestion of beginning neuritis, notwithstanding the atrophy. The arteries are normal in size, whereas the veins are dilated, but show no tortuosities so markedly defined in the left eye. There is likewise here no suggestion of retinal degeneration.

Examination of the Urine.—Acid reaction, fair quantity of albumin; no sugar; urea quantity 0.35 normal. Passes enormous quantities of urine daily.

Treatment.—This patient was given bromid to quiet the heart, placed on a milk diet and given energetic sweat baths, and her vision in a few days commenced to clear up.

Subsequent History.—December 27. The hyperemia of the disc is not so great, inasmuch as on the left eye the vessels in the superior part can be followed now to their origin on the disc.

Oct. 2, 1903. The patient is still living.

OPTIC NEURITIS, CHRONIC PARENCHYMATOUS NEPHRITIS.

CASE 2.—S. S., 23 years of age, was referred to me for examination owing to some edema of his lower eyelids and for a very annoying scotoma scintillans. Suffered from typhoid fever in his fourteenth year, and was refused life insurance in his nineteenth year owing to albumin in his urine.

Examination.—He has a slight hypertrophy of the heart; apex beat a little below and to the left of the nipple line; pulse rapid and bounding.

Examination of the Urine.—Approximately three pints are passed per day, loaded with albumin; urea half of the normal quantity. Chronic parenchymatous nephritis.

Ophthalmoscopic Examination, Left Eye.—A distinct optic neuritis; the edges of the disc are faded, many dilated capillaries radiating from the disc, and a large area of edema follows the vessels for the lower half of the retina in their course. A white, edematous area occupies the region of the macula; vision =6/6.

Right Eye.—Vision =6/9. The disc is likewise edematous, swollen, great hyperemia of the vessels and a similar edematous area surrounds the vessels of the lower half of the disc.

Subsequent History.—This patient was not seen again until June 12, 1901. He tells me that he has had uremic convulsions; was in coma at one time for 36 hours. Ophthalmoscopic examination of both eyes showed large atrophic areas, many of them punctate in form, a result of violent choroidal inflammation. These areas are especially confined to the regions immediately surrounding the discs and in the macular region

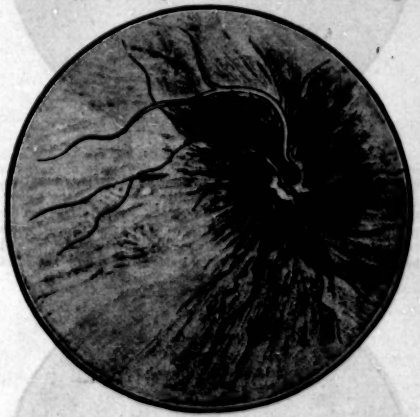

Fig. 4.—Case 3. Neuroretinitis, right eye.

and for a distance along the line of great vessels, but they do not extend into the periphery. Owing to his great weakness, ophthalmoscopic drawings could not be made. He died Sept. 10, 1901—just one year and three months from the first time he visited my office.

NEURORETINITIS, CHRONIC INTERSTITIAL NEPHRITIS.

CASE 3.—Mrs. B., a widow, aged 55 years, was referred to me October, 1896, for examination for glasses. She states that she has been under treatment for chronic Bright's disease for some time.

Examination.—Hypertrophy of the left ventricle, and an accentuated second sound. Patient is emaciated, weak and suffers from severe headaches, but has no edema.

Examination of the Urine.—Large quantities of albumin. Diagnosis, chronic interstitial nephritis.

Left Eye.—Vision equals 6/60, with +150 D.; no improvement. Examination of the fundus shows the typical picture of retinitis Brightica. Papilla is enormously swollen, giving the typical fire-brand appearance, +3 D. required to see it distinctly. All capillaries are widely dilated and tortuous, with many hemorrhagic foci scattered over the enlarged papilla. The veins are tortuous, overfilled, almost double their usual size, the arteries almost normal, but very tortuous.

in the region of the macula is a large atrophic area, surrounded by pigment, the result of choroidal atrophy. In the center of this area can be seen distinctly an exquisitely, sharply defined point, which reflects the light like a flame. Around this area of macular degeneration are many splashes of fatty degenerated retinal tissue. Also, the characteristic stippling on the region of the macula. Following the course

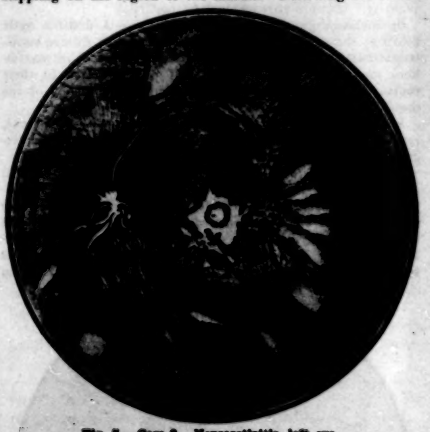

Fig. 5.—Case 3. Neuroretinitis, left eye.

of the vessels are also many splashes of retinal degeneration.

Right Eye.—Much the same condition prevails—the hemorrhagic areas on the papilla, if anything, greater. The swollen papilla seems to extend far out into the retina proper. The region of the macula presents the characteristic figure, and here, likewise, areas of retinal degeneration follow the lines

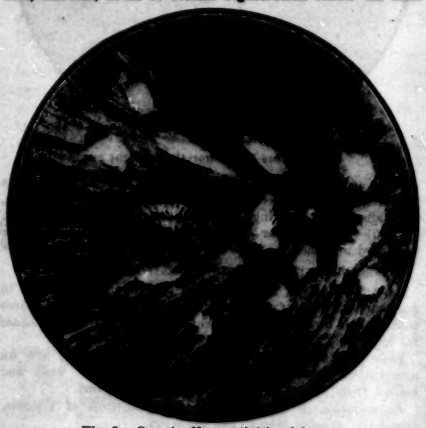

Fig. 6.—Case 4. Neuroretinitis, right eye.

of the vessels. Above the macula are several hemorrhagic foci.

Subsequent History.—No improvement was observed from treatment and the patient died in June, 1897.

NEURORETINITIS, CHRONIC PARENCHYMATOUS NEPHRITIS.

Case 4.—William N., 33 years of age, was referred to me Sept. 10, 1901, for an examination of his eyes, which began to fail a week previously; he is a clothing cutter, married and has always led an abstemious life. He had typhoid fever a year previous to his present illness. He has had many dizzy spells, headaches and sickness of his stomach. He had a uremic attack a week previous to his visit, since which time his vision has begun to fail.

Examination.—He has an enormously hypertrophied heart; pulse 120, full and tension high. His whole left side quivers with each pulsation. He has all the signs of arteriosclerosis on his temples.

Examination of Urine.—He passes 7.5 pints of urine daily, which is loaded with albumin. Diagnosis, chronic parenchymatous nephritis.

Present Treatment.—Nitroglycerin to reduce violent heart action, and sweat baths by means of the hot-air apparatus; salts.

Left Eye.—Vision=6/60. The entire retina is so edematous that conditions in the temporal half can scarcely be observed. There is also some cloudiness in the vitreous, close to the retina, and considerable exudate behind the retina, so that the retina has a grayish appearance, with a possible slight detachment. In the region of the macula are some white glistening points and everywhere are white striated patches,

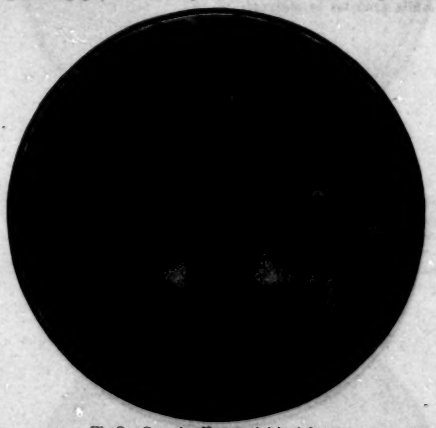

Fig 7.—Case 4. Neuroretinitis, left eye.

more particularly in the upper half of the retina, where several large hemorrhagic exudates exist. The disc itself is so enormously swollen that the vessels can be only followed for a very short distance, and disappear in exudates, appearing again at long distance removed. There is enormous dilatation of all the capillaries of the disc and hemorrhagic areas scattered over the entire retina.

Right Eye.—Vision=4/60. The disc is edematous; enormously swollen; veins and arteries widely dilated and tortuous; disappear on the surface of the disc, and appear again at some distance from it. Many flaring hemorrhages exist over the entire fundus, and white areas of choroidal exudate, as well as degenerative and fatty changes in the retina, are marked everywhere. The characteristic star figure in the region of the macula is present.

Subsequent History.—Ocular conditions were not materially improved by the general treatment, and the patient died Nov. 20, 1901, having suffered from general edema of the lungs, glossitis, neuralgia, and finally dying of an enormous hemorrhage of the stomach, possibly a uremic ulcer of the stomach.

NEURORETINITIS, CHRONIC INTERSTITIAL NEPHRITIS.

Case 5.—April 5, 1902, I was called to examine the eyes of Mrs. F. L., who had been under treatment for chronic interstitial nephritis for the past six years. She had had repeated

uræmic attacks; was much emaciated and very weak. Her pulse was rapid and feeble; she was unable to read anything, and objects at a short distance were covered by a cloud.

Ophthalmoscopic Examination, Left Eye.—The vitreous was full of floating opacities, through which the disc is seen swollen, exceedingly hyperæmic; its edges indistinct, and radiating from the disc in every direction are many flame-like

Fig. 8.—Case 5. Neuroretinitis, right eye.

hæmorrhages. The disc is surrounded by many white patches, some of them flame-like; others confluent, and in the region of the macula is a large white area, surrounded by many glistening points. The *right eye* presents practically the same conditions.

Treatment and Subsequent History.—The patient was put through an energetic course of sweat baths, and vision seemed

Fig. 9.—Case 5. Neuroretinitis, left eye.

to improve, but death ensued June 21, 1902, the patient having been in uræmic coma for four days.

NEURORETINITIS HÆMORRHAGICA, CHRONIC INTERSTITIAL NEPHRITIS.

CASE 6.—Mrs. C. H., 64 years of age, came in March, 1902, to have her eyes examined for glasses, stating that her vision had been poor for the past four weeks; she is a large, stout woman, weighing 185 pounds, with no history of ever having been ill, except the occurrence of headaches and dizzy spells.

Examination.—The heart is enlarged, apex beat two inches beyond the nipple line, pulse 120, full and strong.

Examination of the Urine.—Sp. gr. 1008, much albumin, no sugar, no casts. Chronic interstitial nephritis.

Ophthalmoscopic Examination, Left Eye.—Vision is 2/60;

Fig. 10.—Case 6. Neuroretinitis hæmorrhagica, right eye.

can read no print. The disc is hyperæmic; swollen; edges indistinct and hazy. Extending outward from the disc, taking in the area of the entire macular region, is a large hæmorrhagic area, in some places so dense as to appear almost black. There is also an area of degeneration appearing white and glistening, exactly in the center of the macular region.

Fig. 11.—Case 6. Neuroretinitis hæmorrhagica, left eye.

Right Eye.—Vision equal to 6/36; disc is swollen; edges washed out, and extending downward and outward is a flame-like area of dilated capillaries, in which the inferior temporal artery is lost. The macula is not involved.

Subsequent History.—The seriousness of her condition was disclosed to her daughter, but they refused to believe my statements, and the case was lost sight of.

NEURORETINITIS HEMORRHAGICA, CHRONIC PARENCHYMATOUS NEPHRITIS.

CASE 7.—Miss E. F., aged 18 years, came of her own accord Aug. 22, 1899, owing to gradual diminution of vision. She states that two years previously she had the measles, subsequent to which she developed dropsy. Her father died of Bright's disease and two sisters died of tuberculosis. She has four sisters and two brothers living. She has had no other

Fig. 12.—Case 7.[1] Neuroretinaltis hemorrhagica, right eye.

disease of childhood, but since having the measles she has never been well. At present she is very pale, anemic, listless; at times can not follow conversation; has constant pain in head, vomiting spells every day, especially on arising in the morning; her feet are swollen. She has never had a complete convulsion, though at times cramps occur in her hands and legs. She has had severe diarrhea at times.

Fig. 13.—Case 7. Neuroretinitis hemorrhagica, left eye.

Examination.—Pulse rate is 128, full and strong. Her heart is enlarged beyond the nipple line and an accentuated second sound heard all over her left side.

Examination of Urine.—Her urine is loaded with albumin and the urea quantity is half normal. Diagnosis, chronic parenchymatous nephritis.

Left Eye.—Only light sense. Ophthalmoscopically the disc appears about three times its normal size, pure white, from which gradually radiate dilated capillaries. The veins are more than triple their normal size, the superior disappearing in exudates, the inferior, with great tortuosity, extending downward. The arteries are entirely lost in the exudate and swelling. The entire periphery of the retina is covered with radiating hemorrhagic areas, sometimes fine, sometimes in large blotches. The region of the macula displays a wonderful fatty degeneration, a formation of cholesterin crystals, extending downward, forming a large, almost triangular area.

Right Eye.—Vision =4/60. The papilla is more normal in size, but swollen. From its edges radiate dilated capillaries, which give the fire-brand appearance, and which are gradually lost on the surface of the retina. The arteries and veins are dilated and tortuous, and to the nasal side and upward are many fine radiating hemorrhagic areas, whereas, below are many confluent, white plaques. The region of the macula disclosed many white spots, and just above the macula is a large hemorrhagic exudate.

Subsequent History.—This young lady took to her bed the day I examined her, and died September 18, just 27 days after my examination.

Fig. 14.—Case 8. Retinal venous thrombosis.

RETINAL VENOUS THROMBOSIS, CHRONIC INTERSTITIAL NEPHRITIS.

CASE 8.—Mr. E. B., aged 64, consulted me Jan. 31, 1898. He stated that on awakening from a sound sleep on the morning of January 30 he observed that vision of his right eye was completely blurred. He denies all venereal disease; in fact, he has no recollection of ever having had any disease.

Examination.—There was no external sign of disease. His pulse is strong and incompressible; heart enlarged.

Examination of the Urine.—Sp. gr. 1022; alkaline reaction, with but a trace of albumin; no casts.

Ophthalmoscopic Examination.—Vision of the right eye was but 6/24, and of the left eye a complete blur. The nasal and lower halves of the disc are indistinct and covered with fine hemorrhages. The two inferior veins are dilated to nearly four times their normal size, and following them downward in their course you find them strewn with hemorrhagic exudate; especially the inferior temporal vein shows two points at which the vein is entirely hidden by a grayish white mass, presumably the dilated portion of the vein, which I hold to contain thrombus. The veins in the lower half of the fundus are tortuous, and the entire lower half of the retina is strewn with hemorrhagic splashes. Curiously the entire upper half of the fundus, except a portion of the nasal, is free from hem-

orrhage; its veins and arteries are normal; whereas, in the lower half of the fundus, the arteries are much smaller.

Subsequent History.—This patient remained under observation for more than a year, but whereas the hemorrhagic exudate absorbed, his condition remained practically the same, and the upper half of the field was entirely wanting. He is still living.

[The discussion on the papers of Drs. Stricker and Suker will follow the paper of the latter next week.]

THE DEVELOPMENT OF HARD TISSUE IN THE PULP OF HUMAN TEETH.*

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Of the functions performed by the various organs of the body there are few, if any, more interesting or have the power of producing more varied results than that of the tooth pulp. In health it is the benefactor of the surrounding hard tissue; in disease, the medium whereby we are warned of the mischief that is going on. Among the varied functions of this organ may be placed the power of developing "secondary dentin."

Nature in many cases endeavors to overcome the evil produced by the destroying microbe, by forming a layer of fresh tissue between the soft, sensitive pulp and the dentin that is being broken down by decay; the same protective measure also occurs in those cases where erosion has commenced its destructive work, as well as in many other instances where disintegration of the hard tissue has been produced, by the various known causes. In all these examples the newly formed hard tissue is known as secondary dentin, the development of which we desire to consider in this paper.

On the examination of teeth, we find we may have new tissue more or less continuously developed from the pulp, until the tooth is lost either by disease or as a result of old age. In other cases the new tissue may be developed, without any apparent cause, and the development may be either continuous or spasmodic until the whole of the pulp chamber becomes filled with this new tissue. Again, we may find it in the pulp itself more or less surrounded by pulp tissue in the form of pulp nodules, and as Prof. Jos. Archovy has designated certain growths "Odontoma internum liberum."

In any and all of these cases the new tissue is spoken of as secondary dentin. It will thus be seen that there is a variety of tissue grouped under the head of secondary dentin, ranging from the comparatively structureless tissue as seen in the pulp nodule to that of the complicated character known as osteodentin. (Figs. 1 and 2.)

It may enable us to better understand the development of this tissue if we divided it into classes. We shall, therefore, consider first, normal secondary dentin; second, dentin of repair; third, pulp nodules, and lastly, a form of secondary dentin found in teeth where pyorrhea alveolaris has been pronounced.

NORMAL SECONDARY DENTIN.

In the first class we shall include all tissue produced apparently without any cause, the whole of the pulp and surrounding tissue being healthy at the time of the deposition of the tissue. A good example of such may be frequently found in those teeth perfectly free from diseases, such as decay or erosion. Nor have the teeth been worn down by attrition; yet on examination they are found to have their pulp chambers partially or entirely filled with new tissue. This tissue may be very varied in its microscopic appearance, from that of an almost structureless character to the more complicated containing lacunæ-like spaces, and frequently an innumerable number of tubuli. The tissue is usually found in the twelve anterior teeth, but perhaps more

Fig. 1.—A pulp nodule, showing structureless character of secondary dentin.

frequently in the lower incisors and canines. There is, as a rule, no inconvenience produced by its development, and its presence is only detected on examining the tooth after extraction.

It would appear to be Nature's way of reducing the size of the pulp chamber, and is much more pronounced in those who have passed middle age. It is rarely

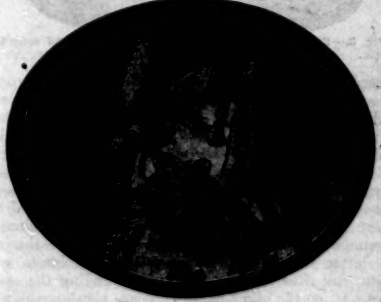

Fig. 2.—a. Osteodentin.

found in pulp canals; the deposition commences usually at or near the apex of the pulp chamber, gradually working downward toward the point where the chamber is united to the pulp canal. Even when the tubuli are in large numbers they rarely assimilate with those tubuli previously formed; hence it is not at all difficult to define the line of demarcation between the two tissues. This line is usually very pronounced, owing to the fact

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. H. Walker.

that some time has elapsed between the calcification of the old tissue and the commencement of the deposition of the new, and as a consequence the first layer laid down usually appears structureless and often followed by a number of irregular spaces very similar in character to the intergranular layer of the dentin, and then if the deposition is continued, tubuli are regularly formed. If, on the other hand, from any cause the deposition is interrupted we have a mass of mixed tissue—structureless, lacunæ-like spaces, and tubuli, all mixed together. The development of this tissue is as follows: After the dentin has become perfectly calcified in a healthy tooth fresh formative material is brought to the pulp by the blood; this passing to the outer layer of the pulp by capillaries is taken up by the layer of globular or semi-globular cells (Fig. 3) surrounding the odontoblasts, and these cells become eventually calcified. As this calcification takes place the odontoblasts are restricted in size by compression and the odontoblast cells forced inward toward the center of the pulp, the constricted portion forming the tubuli. If the deposition is slow, the outer mass becomes very solid, and as a

Fig. 3.—Pulp chamber superior bicuspid, formation of secondary dentin.

consequence structureless with few tubuli. If, on the other hand, it is rapid, some of the cells do not calcify and lacunæ-like spaces are thus formed with their canaliculi produced as minute spaces between the calcified cells. As this process goes on new cells are formed by cell division. If during the process of calcification any dense tissue is met, such as the walls of the blood-vessels (arteries or veins), the cells surround this dense tissue, and calcifying around them form the circular openings so frequently seen in the sections of this tissue, often carrying by pressure the odontoblasts with them, and thus tubuli are seen surrounding the openings. If, on the other hand, no dense substance is met, the calcification goes on continuously until the whole of the pulp chamber is filled with new tissue, thus producing the variations found in this tissue.

The cause of all this may be and probably is, the slight irritation—so slight that the patient is unconscious of it—produced in the pulp by the constant use of the teeth.

DENTIN OF REPAIR.

The second class, and by far the most numerous, spoken of as dentin of repair, may be divided as follows: 1. That found in teeth with eroded surfaces. 2. That found in teeth that are decayed. 3. That found in teeth worn down by attrition and mastication. The pulp nodule is produced from quite a different cause—irritation produced in the pulp itself.

On the microscopic examination of the teeth placed in section 1—teeth with eroded surfaces—we have found in every tooth examined that there has been a deposition of secondary dentin. This new tissue assimilates that of normal dentin more than in those of the other sections; the line of demarcation is more pronounced following the area of the eroded surface. It is much more clearly defined and certainly more restricted in its development, having, as a rule, tubuli assimilating with the tubuli of the dentin, and apparently there is little or no break in their continuity. At the same time there appears to have been a marked change in the condition of the tubuli of the original dentin. Immediately under the eroded surface we find the tubuli of the original

Fig. 4.—Secondary dentin under decay: a, decay; b, secondary dentin.

dentin very difficult, if not impossible, to stain. It appears as if these tubuli had been filled with some deposit from the outer surface of the tooth that prevents them from performing their usual functions. The function of the secondary dentin is to prevent any acute irritation passing from the eroded surface to the pulp itself. Owing to the restricted area of its development it would appear as if the deposition was caused by the slight local irritation produced in the earlier stages of the disease of erosion.

The development of secondary dentin in the second section is, as far as my examination goes, much more rare, and is found only in those cases where the decay has gone on slowly (Fig. 4) and the irritation to the pulp tissue has been as a consequence slight and continuous, but extending over a long period, differing from the former in microscopic structure. It varies very much in structure as well as in the area of its deposition. The earlier deposited tissue does not, as a rule, contain any tubuli, but a number of lacunæ with canaliculi. As the tissue increases in thickness it assumes more the character of normal dentin and a number of tubuli are devel-

oped. It usually spreads over a much larger area than that of the secondary dentin in eroded teeth, and does not terminate in such a pronounced or irregular manner. It would lead one to suppose that the irritation to the pulp tissue had been much more general. It is still an attempt by Nature to protect the pulp from the results of the diseased condition of the tooth, produced by the action of the spreading of the decay.

Fig. 5.—Section of superior canine worn away at the sides by a metal band on artificial tooth plate; though the tooth is worn away by attrition, the deposition assimilates that found in eroded teeth. a, Portion of tooth worn away by band; b, deposition of secondary dentin.

In the form of secondary dentin placed in the third division, that produced by attrition or mastication, we have the teeth worn down oftentimes in extreme cases until the original pulp chamber has become exposed. The teeth usually affected by the attrition are the six front ones of both upper and lower jaw (Fig. 5)—those worn down by mastication, the bicuspids and molars. In either case the result is the same. The tissue is usually quite structureless at the commencement of the deposition, passing from that through either of the other forms until we have a mass of dense tissue all fused together and entirely filling the pulp chamber; so dense, that in extreme cases, even if the original pulp chamber has been exposed, there is little or no discomfort to the patient. This tissue is more like the tissue previously referred to as normal secondary dentin than that of any of the others. In all these cases the method of development has been the same, and the cause, that of irritation in one form or another; but in all cases the exciting cause has been from the outside, i. e., from that portion of the tooth above the gum line.

Fig. 6.—Pulp nodule surrounded by hard and soft tissue. a, Pulp nodule; b, soft tissue; c, hard tissue. For nodule surrounded by soft tissue see Figure 1.

DEVELOPMENT OF THE PULP NODULE.

In this case we have a pronounced deposit of secondary dentin, either in the pulp chamber or the pulp canals, sometimes in both; but unlike the deposit in the previous sections, the nodule is always formed as a result of irritation in the pulp itself.

Fig. 7.—Pulp nodule attached to original dentin with tubuli curved around nodule.

On examining a tooth there is nothing in the external appearance to suggest the existence of even the smallest of pulp stones, nor can we take into consideration as a factor the age or sex of patients in the development of this tissue, as these nodules are to be found in the teeth of patients in their teens as well as in those of advanced age, and in many cases producing as much pain in the youngest as in those of old age. The result of my examinations tend to show that the position of the nodule is usually the cause of the pain produced.

In external appearance the nodules vary from a small more or less globular or oval structure to that of any size or shape, controlled only by the size of that portion of the canal or chamber in which they are found. Thus we have them from a minute point to those entirely filling the pulp chamber, and in teeth of two or more roots it is not unusual to find them not only filling the pulp chamber, but with spines of hard tissue passing into the various canals, and thus producing the most irregularly shaped nodules.

Their position is almost as varied as their outline, for, as I have already said, we may find them in the pulp canals and pulp chambers, quite free from the surrounding dentin, or we may find them attached to the sides of the pulp canals and quite surrounded by the dentin. (Figs. 6 and 7.) It is not the largest of these that cause the greatest amount of pain, as the pain is produced by the position and not by the size of the nodule. Thus a small nodule near the apex of the canal will probably produce pain by the constriction of the pulp (Fig. 8), and as a consequence pressure on the nerves, while a nodule much larger in size (unless there is pressure produced on the nerves) may almost entirely fill the pulp chamber without producing any discomfort. Though their size, shape and position may vary very much, such is not the case with regard to their microscopic structure. (Fig. 9.) All the nodules I have examined have a somewhat similar structure when viewed by the microscope. We have usually in the center or somewhere near the center of the developed tissue, a space more or less

Fig. 8.—Nodule at apex of root canal, in this position causes great pain. The dense tissue almost surrounding nodule is pulp.

pronounced, and it is at this point that the nodule has its origin. (Fig. 10.) It grows outwardly, and radiating from this point there are usually a number of more or less concentric rings caused by additional layers of calcified tissue. It is in this way a nodule increases in size. This may continue until two or more nodules touch each other and become united into one, thus forming a compound nodule large and irregular in shape. Its structure, as thus seen, is quite different from either ordinary or secondary dentin. We may sometimes find a few isolated, irregular tubuli, but rarely do we find any tubuli approaching the character of those seen in secondary dentin. This may be accounted for by the fact that its origin is generally some distance from the odontoblastic layer, and the nodule is developed from a different layer of cells from that of secondary dentin. Its position would imply that no odontoblasts had taken part in its development, and if this is so, a very interesting question arises as to how these tubuli, if they are tubuli, are produced.

The origin of the development of the nodule is some irritation in the pulp itself, and I believe the primary object of the nodule is to cover up, by calcification, some substance that has been the cause of irritation in the pulp tissue. Its structure, as well as its mode of development, would lend itself to this supposition, for under the microscope we have a structure similar in appearance and I believe identical in its mode of develop-

Fig. 9.—Section of pulp nodule taken from pulp chamber of superior molar.

ment to that of the pearl found in the oyster, the origin of the pearl being a foreign body in the mantle of the mollusc. As it is impossible for the oyster to get rid of this foreign body by absorption, it builds around the cause of irritation that which is known to us as the pearl. So in the development of the pulp nodule the

Fig. 10.—Pulp nodule showing what I believe to be origin of nodule at a.

same has occurred. Nature has found in that delicate and complicated structure—the pulp—something it can not get rid of, something it can not absorb. The irritation produced by this something causes the pulp to endeavor to get rid of it; as, however, it can not absorb it, there is nothing for it to do but to encyst it.

If this is the true origin of the pulp nodule, we ought to be able to find in some pulps, as a result of microscopic examination, the exciting cause, and this exciting cause is, I believe, to be found in either a dead cell or cells, or perhaps, a few blood corpuscles that have by some means escaped from their ordinary course, either by the rupture of one of the capillaries or small blood vessels abounding in the pulp. Such an accident may occur by a sudden shock to the tooth, or, again, the corpuscles may be found out of their place as a result of the breaking down of some of the smaller arteries, veins or even the capillaries by disease, such as the pulp is exposed to.

I think the former method is the one that usually causes the development of the pulp nodules in our younger patients, while undoubtedly the changes in the pulp lend themselves to the development of these nodules as age advances. We will suppose from either of the above, or some similar cause, that such a change has taken place in the pulp, and as a result there will be irritation of a more or less pronounced character in this tissue produced by what has become a foreign body.

Fig. 11.—Interglobular spaces in dentin as seen in teeth affected by pyorrhea alveolaris. Note the globular character of the dentin.

There are no lymphatics for the reabsorption of this body; it does not require a very great stretch of the imagination to trace the growth of the pulp nodule on the lines laid down. The course followed would, I believe, be somewhat as follows: The irritation produced by the foreign body causes an increased activity in the blood vessels surrounding the cause of the irritation, and, as a necessary consequence, an increase of formative material brought to hand. This material is taken out of the blood by the surrounding cells, and it becomes a very simple matter for these cells to cover up the cause of the irritation by a deposition of hard tissue. This probably occurs as follows: The increased blood supply produced by the irritation causes immediate activity in the cells surrounding the cause of irritation, and the result of the activity is to produce a number of new cells. The pressure produced by this increase in the number of cells again increases the blood supply, and after a time the cells deposit a hard tissue in the same manner as the cementum is produced in exostosis.

As the deposition takes place in very small quantities, and probably very slowly, we have a more or less perfectly calcified and, as a consequence, homogeneous deposition. This accounts for the structureless character of the nodule.

Again, we sometimes have a larger mass more rapidly formed, and perhaps nearer or even including some of the odontoblasts in the newly forming mass. We shall

Fig. 12.—Absorption of dentin in tooth having pyorrhea alveolaris.

then have variations in the structure, consisting of lacunæ with canaliculi, irregular spaces and a few markings like the tubuli of dentin. As the calcification of these cells continues, we shall have an increase in the size of the nodule. In some cases this increase causes a further irritation of the surrounding pulp tissue, and thus a constant supply of fresh formative material is brought to the cells. The increase of size eventually produces pressure on the nerves of the pulp and, as a consequence, frequently the most acute pain is experi-

Fig. 13.—Absorption of pulp canal in teeth exostosed. Many of these excavations are filled with secondary tissue cemental in character and similar to the tissue found outside the cementum.

enced. This is the course, I believe, of the pulp nodule when surrounded by pulp tissue.

There is yet another class of nodule; though previously mentioned, it may be interesting to briefly follow its history. I refer to those nodules attached to the dentin. We may also, if we are fairly successful in our search, find them not only attached at one side, but entirely surrounded by dentin, and that at some little distance from the pulp canal. Wherever I have found

these they have always been near the apex of the root and embedded in the last-formed dentin; and this, I think, gives the key to the explanation of the position in which the nodules are found.

At the time the cutting edge of the tooth is passing through the gums, the apex of the root is in an uncalcified condition, and with a new tooth in this position it is much more subject to a shock than it will be after it is fully erupted. As a consequence, we have a nodule formed in precisely the same manner as those formed in the pulp tissue, with this exception—those found in the pulp tissue are always formed after the calcification of the dentin has taken place, while the latter class are formed prior to the calcification of the tooth, and when first formed are surrounded by uncalcified dentin. Any careful examination of a tooth with nodules in this position will fully illustrate my meaning, as the tubuli of the dentin will be found to be bent around the nodule, proving the nodule must have been formed prior to the calcification of the dentin. If it had been otherwise and the dentin had been absorbed to make a space for the nodule, we should then have found the tubuli ending abruptly at or near the margin of the nodule, but this is not the case. (See Figs. 7 and 10.)

This will also account for the nodules found in the pulp canals but attached to the dentin, and here, I believe the development has been the same as in nodules surrounded by dentin.

DENTIN ASSOCIATED WITH PYORRHEA ALVEOLARIS.

The last of the forms of secondary dentin we wish to draw your attention to is to be found in the pulp chambers and pulp canals of teeth having been removed owing to the pronounced action of pyorrhea alveolaris. In all the teeth examined (about 100) the original dentin has been of very poor structure, containing a large number of interglobular spaces (Fig. 11); the dentin generally badly calcified and more or less absorption of the cementum and sometimes the dentin at the apex of the root. (Fig. 12.) In the pulp itself the first thing that attracts our attention is the absorption of a portion of the original dentin forming the pulp chamber and canal, probably the result of acute inflammation prior to the development of the secondary dentin. The new tissue is very varied in character, and apparently consists of a mixture of tissue similar in structure to that found in the previous cases, with the addition of a very large amount of isolated globular secondary dentin wherever there is a piece of pulp tissue; so that the whole of the pulp chamber canals are more or less filled with either secondary dentin as previously described, or an innumerable number of these globular bodies, generally isolated, but sometimes, though very rarely, found fused together. I have noticed similar excavations in the pulp canals of teeth that are exostosed, but with this difference: the cavities in the latter case are frequently filled with secondary tissue like the additional layer or the outside of cemental tissue. (Fig. 13.) In the case of pyorrhea alveolaris, the excavations are not filled with any special tissue.

All the microscopic slides used for illustrating this paper are hard sections ground down, as I believe decalcification in any form is liable to alter the conditions of the tissue under examination.

63 Grand Parade.

DISCUSSION

ON THE PAPERS OF DRS. CONSTANT, MORGANSTERN, CAUSH AND BÖMER.*

DR. EUGENE S. TALBOT, Chicago—Just where the dental papilla leaves off and the dental pulp begins is a question worthy of discussion. What is called the dental papillæ still requires a large amount of research, especially along the line of histology. It was for the purpose of bringing this organ more forcibly to the notice of the profession that I had instituted these symposiums from year to year in our proceedings, and I trust that more work will be done on the histology, physiology and pathology of this structure. The pathology in erupting teeth is clear. No matter what the propelling force may be, there is an irritation set up around the crown of the tooth in the alveolar process. This irritation produces inflammation. Halisteresis and Volkmann's perforating canal absorption are set up and room is made in the bone for the advancing crown. The same inflammation, although not quite as severe, sets the bone cells at work, at the border around the root, thus forcing the tooth forward. It is barely possible that these bone deposits are what Pierce intended to illustrate by pounding on the barrel to remove the bung. If Mr. Constant is correct in his theory, so far as the starting of the crown is concerned, I may agree, but certainly it would not account for the eruption of the tooth after the roots had begun to form. The blood space is so small and the resistance so great, that it would appeal to me to be due rather to the bone cells filling around the roots than to blood pressure. What is true of the eruption of teeth also holds good in teeth that have lost their antagonism years after the roots are completely formed. In regard to root absorption, I do not understand the difference between pathologic and physiologic absorption of roots or bone tissue. Absorption is absorption, regardless of the irritation and inflammation. The only difference I can see is one of degree and form. The death of the pulp *per se* does not make the root incapable of absorption, as suggested by Mr. Constant, nor does the crown impinging on the dead root always cause the deflection.

There are three forms of bone absorption—osteoclast or lacunæ, halistersis, and Volkmann's perforating canal absorption. All are brought about by irritation and inflammation. Root absorption is always due to osteoclast or lacunæ absorption. It makes no difference whether the pulp of the tooth is alive or dead, this absorption is the same. If the pulp is dead, the absorption is much greater than when alive, as witnessed in implanted teeth. When the pulp of a temporary tooth is destroyed or dies, irritation is set up at the end of the root, inflammation of the peridental membrane and alveolar process takes place, and the surrounding bone and trabeculæ or fibrous tissue which hold the lime salts together are destroyed. Since it is necessary for the trabeculæ or fibrous portion of the alveolar process to be present in order to hold the osteoclasts, it being destroyed, the osteoclasts can not absorb the roots of the temporary teeth. The remark of Sudduth that the absorbed and the absorber must be in close connection is very apt in this case. The alveolar process having been destroyed, the root of the temporary tooth is only held in position at the cervical margin by the gum and alveolar process. The deflection of the root, therefore, may be simply the result of mastication, and not always caused by the crown of the permanent tooth.

We are obligated to Mr. Constant not only for his paper, but his presence at this meeting, and while we are not so many in number, yet I can assure him that the theories advanced in his paper will ever after be associated with his name in relation to this subject in this country. The purely scientific men in this country or abroad are few, but there is this satisfaction to him as well as to us, that we are trying to advance our specialty along given lines regardless of nationality.

* The paper of Dr. Constant appeared in THE JOURNAL January 16; that of Dr. Morganstern, January 23; that of Dr. Bömer, February 6.

DR. M. H. FLETCHER, Cincinnati—I would like to ask Mr. Constant why the tooth is not pushed forward after the root is completed.

MR. T. E. CONSTANT, Scarborough, England—Dr. Fletcher and Dr. Talbot apparently are at a great difference on the same point. Dr. Talbot says that he agrees that the tooth could commence erupting, but does not believe that after it is formed there would be force enough to keep it coming up. That is what I pointed out. In the illustration there is a broad base of vascular tissue on which the tooth rests; consequently, the lifting force is very great. There is a little extrusive force in the peridental membrane, as occurs when there is inflammation of the pericementum, when the tooth is raised in the socket. The reason the tooth is not entirely extruded is that while the pulp is alive the alveolus accompanies it to a certain extent and by the time the alveolus has gone a little beyond the normal level the fibrous tissue in the pericementum has developed to such an extent that it forms a ligament for the tooth, and this development of the fibrous portion of peridental membrane ties the tooth in its socket. I did not explain that in the paper, because I believed it would go without saying.

DR. M. H. FLETCHER, Cincinnati—If I understand the condition that Mr. Constant describes, it seems to me that the subject, for the purpose of discussion, might be divided into the physical properties and the chemotactic or the opposite of the physical. His hydrodynamic theory of the pressure from below, by the pumping of the blood, seems to me the most satisfactory explanation we have heard—if we must have a physical explanation for the process of eruption of the teeth. It is not clear to me, however, that we need such a theory. To take another view of the subject, we will consider movements which can hardly be classed as mechanical or physical, which, from my point of view, should be considered in this connection. The peristaltic motion of the intestines is an example of the extrusion of effete bodies; this is muscular and consequently mechanical, but the extrusion of foreign bodies or pus from the flesh is not mechanical in the same sense, but is more like the eruption of a tooth. The expulsion of the ovum from the ovary, however, is seemingly a force of a different type, and I do not see that we could class it with either hydrodynamics or mechanics; again, when the ovum is about to be expelled, the fimbriæ of the fallopian tube reach out and embrace the ovary. We can easily understand how, when the ovum is discharged into the fallopian tube, it may be forced along by the ciliated epithelium. But why do we have the rising to the surface of the ovum? What is it that causes the fimbriæ of the fallopian tube to grasp the ovary? We have here powers in physiology which, to my mind, explain more fully the mechanism or the processes of the eruption of the teeth than any mechanical explanation. To cite other processes which should be weighed in this connection, consider the attraction for each other, of the male and female elements in fertilization. After fertilization then comes segmentation of the ovum. What is it which causes this proliferation of cells and the differentiation into epiblast, mesoblast and hyoblast? Here are forces which seem to me can explain the process in question. Why do we have the development of two or three roots in the molar teeth and single roots in the incisors? This differentiation of structure in the development of tissue, I believe, is yet unexplained, but it must be accepted just as we accept the production of electricity by dynamos, the law of gravity and many phenomena of the universe which as yet we do not comprehend. The unexplained chemotactic attraction or repulsion of organic bodies or cells, in the study of karyokinesis, is a most striking example of an unknown force which I believe must be the one involved in the eruption of the teeth; in other words, I believe the movements in this process must be looked for in the study of cytology rather than in mechanics. The kinetic energy which divides the nuclei of cells and drives the separated parts into opposite ends of the cell, resulting in the mother and daughter elements, is a force which must be taken into account. The multiplicity of this force, created from the myriads of developing cells found in embryonic and growing tissue, certainly would create an energy much greater than is required for the eruption of the teeth. I should be pleased if the theory of Mr. Constant could be accepted as final in this problem, but to me his mechanical plan is not the most scientific way of working it out, although I believe it may be one step toward the solution. If we can determine that this is really the process or even a part of the process, we are nearing the solution, not only of this problem, but of many others within the domain of biology.

DR. HANS PILCHER, Vienna—I believe, with Dr. Fletcher, that we do not know all about the evolution of the teeth. We do not know the cause that starts the whole thing. We do not know the cause that starts the first labor pains, the first movement toward the birth of the child. I believe we know now the mechanical forces which bring about the movement in the tooth. The theory of Mr. Constant seems so extremely natural to me that I believe in it to its fullest extent. In some way the process can not be entirely mechanical. If there is not something that induces an increased pressure in the pulp tissue there would be a similar pressure from the other parts, even though they may consist of hard bone. I believe that the vasomotor nerves or the trophic nerves must have their influence in this particular kind of movement. I would like to ask whether any one has observed in a case of acute inflammation of the peridental membrane that a tooth did not elongate because the roots had not the conical form. I do not believe there is such a case, with the exception of cases in which there is very great divergence which would make a mechanical impossibility of the tooth coming out. It seems to me that those teeth in almost all cases elongate, so I believe the increase of blood supply in the peridental membrane may be taken as an explanation of the final coming out of the tooth.

DR. A. E. BALDWIN, Chicago—I believe there is no law of dynamics or of science whereby we can fully explain these so-called physiologic laws. The explanation mentioned by Dr. Fletcher of the discharge of the ovum is not fully accepted, although it seems to be the most plausible explanation extant. I have long since dismissed as unworthy of consideration the theories advanced regarding the eruption of the teeth and that advanced by Mr. Constant seems to me the nearest approach to a solution.

DR. M. L. RHEIN, New York—It affords me the greatest pride and satisfaction to have been the chairman of this section at a time when this paper has been presented to us. Dr. Pilcher brought up a very interesting question bearing on this forcing up of the tooth and whether it was more common in conical roots than in teeth with roots turned and twisted. In comparative anatomy, we all realize how the conical tooth of the rodent will ultimately cause the death of the animal if the occluding tooth is lost, showing continuation of this force at work. Of course, the tooth does not have the periosteal ligamentous attachment that we find in the human tooth. In the same way in clinical work on the anterior teeth, especially the superior incisor, one of the most distressing forms of peridental disease is the sudden commencement of elongation of one of the incisor teeth, carrying with it the additional formation of the periosmentum of the root itself. There are two points about this pathologic condition that appear to me to strongly confirm the ideas presented to us. The first is the fact that the shape of the roots of these teeth is very conical, and there is nothing in their shape that in itself would prevent such a forcing out of the tooth. The view presented by Dr. Pilcher, and in conjunction with this a number of radiographs that I have taken of such teeth have shown little nodular deposits on the periosmental tissues at different points of the root surface. The connection between these nodular deposits and the forcing out of the tooth has never been clear to me until I listened to Mr. Constant's paper. It seems almost conclusive to me that this has interfered with the retentive force of the ligamentous tissue that holds the roots in the position they should occupy when they have been properly erupted. The second reason is that I have failed to see one case of this kind in which this

process of elongation has not stopped as soon as the pulps of these teeth have been removed; and, in a number of these cases, I have found in sealing of the ends of the roots, orifices that were larger than those often found in an ordinary tooth. These are some of the instances that keep coming back to me in thinking of the practicable adaptability of these views, and the more I have thought of them the more have I been impressed that Mr. Constant's theory is the most scientific interpretation of the physiologic action of eruption of all heretofore presented. I feel that this section has been highly honored in being the vehicle of presenting this paper to the scientific world.

MR. CONSTANT—First, I thank you for your very kind remarks and the kind manner in which you have received the theory that I have placed before you. It would be impossible in the short time at my disposal to enter fully into every fact with regard to the eruption of the tooth. All that I desired to point out was that the very simplest fact in the whole problem had been ignored. It was not my intention to enumerate the things we did not know. When we say that we do not know why the ovum comes to the surface of the ovary, I think that there certainly must be something other than the mere mechanical force in connection with the eruption of the teeth. I think they are reasons we all fully recognize, but I do not think they are reasons for putting forward the purely mechanical side and ignoring the other. Dr. Talbot stated that he did not think there was any difference in the removal of roots of temporary teeth by resorption and by absorption. On that point I disagree.

DR. TALBOT—I said in roots that had dead pulps and implanted teeth. [Dr. Talbot here reread the statement referred to.]

MR. CONSTANT—I inferred from that that Dr. Talbot was of the opinion that whether a temporary tooth was alive or dead, exactly the same process of absorption occurred, but I see that it does not admit of that construction. My contention is that it is rather more than a question of degree. The appearances, so far as I have seen them, seem extremely different in the two instances. In the one case you get very sharply clear-cut nodules of the edge of the root. In the case of the root of a temporary tooth in which the pulp is being destroyed (I am speaking now entirely of the macroscopic appearance) the surface of the dead root is covered with thick membrane and the edges of the absorbed part are smooth. That is what I term the result of pathologic process of absorption. The physiologic process of resorption which takes place when the pulp is alive differs very markedly, that difference being the sharp margins and the absence of one thickened membrane, which has the greasy feel in the other case. Dr. Talbot speaks of the process of the removal of subadjacent tissue from the advancing crown as a process of inflammation. I do not like the term, inflammation, used in that connection. I do not want to enter into the point of exactly what takes place during the removal of subadjacent tissue, as I wish the simpler point to be cleared up first. Until we are in agreement as to the mechanical force which brings the tooth to the surface we can make no progress. Until we can determine the process by which the tooth comes up it is idle to discuss more complex questions. The point I wished to bring before you, and which I have succeeded in making clear, is that mechanical part of the process which is the simplest and it is the part that has been ignored. That there is a mechanical force there can be no doubt in the mind of any dentist who has seen a tooth pressing on the gum before eruption. It has been urged that the tooth came up simply because the subadjacent tissues are removed; but that idea would be dismissed after close observation. In regard to a corroborative point, I ventured in the paper to touch on pathologic conditions, and I can assure you that since I have worked out this theory, some years ago, I have found no pathologic condition that has caused the slightest doubt in my mind as to the applicability of the theory. The point that the chairman mentioned and which would strongly confirm the view is, that in the case of a six-year molar, in which the pulp has been prematurely destroyed, one finds afterward that that tooth does not come up properly into line as do teeth in which the pulps have not been destroyed, and when it does it is not accompanied by any corresponding growth of the alveolaris; that is to say, there is slight extrusion, but not sufficient extrusion to bring it into occlusion with the opposing tooth.

DR. M. L. RHEIN—A point in corroboration of the fact that removal of the tissue is not sufficient to aid in the eruption of the teeth, is the occurrence that we have all seen so often, the premature lancing of deciduous teeth and the reformation of scar tissue, even though the lancing is done in the most thorough manner. I simply mention this as a corroborative point and one which is conclusively clear.

SPLENIC ANEMIA;

REPORT AND DEMONSTRATION OF A CASE.*

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Mrs. S., aged 32, who was referred to me last fall through the kindness of Dr. Rosenwasser, gives the following history: The family history, including that of uncles and aunts and grandparents, is negative. She was born and reared in this city; has never lived in a malarial district; has had no venereal disease and was a healthy girl, never having had any serious illness. She was married at 26, and has two healthy children. She has never had any miscarriages. In March, 1900, more than three years ago, she noticed that she was losing weight and strength, and that her feet and ankles were swollen. The abdomen also increased in size, and both the feet and abdomen were tender to touch. The menses became irregular, appearing at intervals of six weeks, or three and sometimes even five months. These symptoms continued more or less uniformly for more than two years, though the abdomen seemed to increase in size constantly, so that she presented the appearance of a pregnant woman. She also soon noticed a large hard mass in her left side beneath the ribs. For two years also she was attacked with frequent attacks of severe bleeding from the nose. In July, 1902, one year ago, she was suddenly seized with a severe and serious gastric hemorrhage. She thought she vomited more than three pints of blood. Blood was also noticed in the stools for several days after. The hemorrhage, she said, caused more weakness and exhaustion than she had noticed at any time since the beginning of her sickness, and convalescence to her former condition was very tedious.

In September, 1902, she called on Dr. Rosenwasser, who referred her to me for an examination of her blood, as well as any other examination which I should care to make. The mass which she had noticed in her left side could easily be felt without complete removal of her clothes. It was in the splenic region, had the shape of the spleen, moved with respiration, was not very tender to touch and was supposed to be the spleen. The thought of a nice case of splenic leukemia at once presented itself. To my surprise, however, the blood was entirely different from that found in the usual case of leukemia. The hemoglobin was 50 per cent., the number of red blood corpuscles was 4,288,000, and of white corpuscles 4,000—a leucopenia instead of a leucocytosis. A differential count of white blood corpuscles showed nothing abnormal in the proportion of lymphocytes and polymorphonuclears found in health. Only a few eosinophiles were found, a few nucleated red corpuscles, no megaloblasts, and there was no poikilocytosis. The corpuscles were uniform in size.

The enlarged spleen, hemorrhages and the blood with a marked anemia, low color index and leucopenia, were the three important physical signs pointing toward the diagnosis of splenic anemia. Other physical signs noticed then and

* Read before the Cleveland Academy of Medicine.

since are as follows: There is poor nutrition, pallor, no icterus and no cyanosis. The face shows considerable pigmentation, so that she does not appear anemic. The reflexes are normal and there is no glandular enlargement. The feet, ankles and legs as far as the knees are much swollen, though there is no pitting on pressure. The chest is small and the intercostal spaces are sunken. The abdomen measured 31 inches in circumference. The lungs were apparently normal. The physical signs of the heart were very interesting. The base of the heart is in the second intercostal space to the left and the apex in the fourth. The chest wall is so very thin that one can hardly say whether there is a palpable thrill or not over the heart. The heart is perhaps slightly enlarged, unless the thin chest wall only makes it appear so. In the second and third intercostal spaces to the left there is a loud systolic murmur not transmitted much beyond the area of the heart. It does not disappear nor seem to be modified much by change of position. At some of the subsequent examinations the murmur was much less distinct. I am unable to come to any satisfactory conclusion as to whether this is a hemic or organic murmur. (The same kind of a murmur has been found in several cases which I have collected, though in only one, that reported by Hawkins, was any lesion found at autopsy. In his case there was a stenosis of both mitral and aortic valves.) The liver extended from the fourth intercostal space to three-finger breadths below the costal border. It was smooth with a round edge and not painful. The spleen extended from the sixth intercostal space in the left axillary line and the eighth in the back, to the crest of the ilium and almost as far forward as the median line. A notch could easily be felt, if not seen, in the anterior border. The spleen also is smooth with round edges, not painful to touch, and is rather firm. The kidneys are not palpable. The lesser curvature of the stomach is about two finger breadths above the umbilicus and the greater curvature three or four below the umbilicus. The abdomen was very prominent and there seemed to be some free fluid in it. The urine was highly colored, acid, contained a trace of albumin, but no casts.

Dr. Rosenwasser prescribed Fowler's solution in increasing doses, and she seemed to improve at once. In November he referred the case to me for treatment. She was then feeling very much improved, though the physical signs were about the same as six weeks before, except that there was perhaps more anemia, hemoglobin 53 per cent., erythrocytes 3,232,000, and leucocytes 3,500. The ascites was also more marked, the abdomen being 34 inches in circumference, and there was much more albumin in the urine with some casts. The swelling of the feet, however, was disappearing. It seemed that the albumin increased in quantity as the dose of the Fowler's solution was increased. When the ascites was most marked there was a scant, highly albuminous urine, and there was much diarrhea. In February the arsenic was discontinued. In March there was only a trace of albumin and no casts. Instead of arsenic she has been taking three times daily two drams of glycerinated extract of red-bone marrow. This has seemed to agree with her, and though the blood examinations are not so very much better, if any, she at the same time feels much better. For the diarrhea and ascites there were given three times daily five grains each of diuretin and salicylate of bismuth. She was also given a very scant diet of bread, butter and milk only. Under this regimen she improved rapidly, the diarrhea and ascites having disappeared in less than a month when the abdomen was again 31 inches in circumference. In spite of her limited diet she has gained in strength. In April the menses appeared, the first time since November, 1902, lasting one week, nothing abnormal. She has menstruated again in May and June. She has not been confined to her bed since the hemorrhage of nearly a year ago. She calls at my office for treatment, does her own house work, has a good appetite, sleeps well, walks considerably, is not dyspneic, and is one of the most cheerful and hopeful patients to be found. Blood examinations during the last nine months are as follows:

	Hæmoglobin. Per Cent.	Red Blood Corpuscles.	Leucocytes.
Sept. 27, 1902	60	4,288,000	4,000
Nov. 12, 1902	53	3,232,000	3,500
Dec. 16, 1902	45	3,024,000	3,000
Jan. 29, 1903	50	3,360,000	1,920
March 24, 1903	30	2,800,000	3,200
April 27, 1903	50	3,763,000	5,000
June 8, 1903	58	4,824,000	4,000
Average	48	3,678,000	3,230

A differential count of leucocytes was also made the last time that she called at my office, a week ago. Altogether 250 leucocytes were counted, of which there were 12 large lymphocytes, 42 small lymphocytes, 182 polymorphonuclears and 14 eosinophiles. In this count there were also noticed 13 normoblasts and 10 megaloblasts. There was no poikilocytosis. The daily quantity of urine recently has been about 30 to 40 ounces, and the last specimen of urine examined was cloudy, acid, specific gravity of 1016, a small quantity of albumin, a few granular casts and considerable pus.

The term "splenic anemia" is not an old one. Many of the older, and even some of the newer, text-books do not use the term at all, though the terms "pseudoleukemia," "primary splenomegaly," "splenic anemia," and "Banti's disease" have been used more or less synonymously for some time. Wentworth says the name "splenic anemia" was "employed first by Gretsel and Greisinger in 1866 to describe cases of severe anemia associated with chronic enlargement of the spleen. Greisinger believed these cases to be the splenic form of pseudoleukemia." In 1870 H. C. Wood of Philadelphia reported several cases of pseudoleukemia, only one of which, however, was quite typical of the condition as considered in more recent years. Osler says that to Wood belongs the credit of first presenting the subject to the profession in this country. There were recognized two forms of pseudoleukemia previously, one in which the lymphatics alone were involved, and the other in which the lymphatics and spleen together were involved. Wood said: "I now desire to show that there is still a third form of pseudoleukemia—a splenic variety. Under the names, tumor of the spleen, splenic cachexia, etc., from time far back, medical records furnish accounts of cases which I believe represent this affection."

There is no doubt that one of Wood's cases was typical, though even that case had some glandular enlargement. And to him no doubt also belongs the credit of priority in this country which Osler gives him, though Woods himself did not use the term "splenic anemia," and his report appears as "A Case of Splenic and Lymphatic Hypertrophy Without Leucocythemia (Hodgkin's Disease, Adenia, Pseudoleukemia)," and it is probably on account of the title of his paper that the paper has been overlooked by some. In response to a note to Dr. Wood, in which mention was made of such credit belonging to him, he said: "I was not aware that I had the honor you speak of in your letter, but I did know that my older papers had been absolutely overlooked by some among American literature on the subject." Since 1866 and 1870, however, the term has been used quite frequently both here and in Europe, and a considerable number of cases have come into literature. The subject has been studied carefully by both physicians and surgeons. But with the single exception of Dr. Osler it has not been the fortune of any one to see more than a few cases. Both Wentworth and West have said within the last few years that aside from Osler's cases there are perhaps not more than 30 authentic cases reported. This number is no doubt too low. But in the last few years several new cases have been

TABLE OF THIRTY-FOUR CASES OF SPLENIC ANEMIA.

Number.	Reported by	Initial.	Age.	Sex.	Previous History.	Melanoderma.	Splenic Enlargement.	Blood. Hemoglobin.	Blood. Red Blood Corpuscles.	Blood. Leucocytes.	Hemorrhages.	Liver Enlarged.	Ascites.	Swelling of Feet.	Glands Enlarged.	Gastro-intestinal Symptoms.	Heart (symptoms).	Kidney (symptoms).	Treatment.	Result.
1	Wood	M.	29	M.	Syphilis	No.	Yes.			*	No	Yes.	No.	Yes.	Yes.	Diarrhea	No.	No.	Medicinally	Died.
2	Osler		36	M.	Malaria	"	"		2,950,000		Gastric	"	Yes.	"	No.	No.	"	"	"	Died; hem.
3	"		11	F.	Negative	"	"		2,850,000	7,125	"	"	No.	"	"	"	"	"	Medicinally	Died; hem.
4	"		25	F.		"	"			*	Gastric and intestinal	"	"	"	No.	"	"	"	Operation	Recovered.
5	"	C. D. B.	33	M.		"	"	20	2,600,000	2,800	" " "	"	"	"	"	"	"	"	"	Died; gastric hem.
6	"	A. B.	40	M.		"	"	30	4,000,000	6,500		"	"	"	"	"	"	"	Medicinally	Recovered.
7	"	W. H.	30	M.		Yes.	"		2,184,000	12,497	Gastric	"	"	"	"	"	"	"	"	Improved.
8	"	W. E.	40	M.		"	"	55	4,816,000	5,000	No	"	"	"	"	"	"	"	"	"
9	"	F. N.	58	F.		No.	"	60	3,620,000	3,000	"	"	"	"	"	Diarrhea	Systolic murmur	"	"	Died.
10	"	D. S. C.	56	M.	Malaria	"	"	60	4,128,000	3,200	"	Yes.	Yes.	Yes.	Yes.	No.	No.	"	"	Improved.
11	"	C. B.	38	M.	Malaria and Syphilis	Yes.	"	65	4,128,000	2,800	Gastric	"	No.	No.	"	"	"	"	"	"
12	"	J. K. E.	37	M.	Negative	No.	"	46	2,300,000	2,800	No	"	"	"	No.	"	"	"	Operation	Died.
13	"	J. W.	48	M.	"	"	"	65	4,128,000	4,600	Gastric	No.	Yes.	"	"	"	Systolic murmur	"	Medicinally	Improved.
14	"	E. W. S.	28	M.	"	Yes.	"	70	3,104,000	4,800	From kidneys	Yes.	No.	"	"	Yes.	No.	"	"	"
15	"	J. F.	28	M.	Malaria	No.	"	70	4,370,000	3,500	Gastric	No.	"	"	"	No	"	"	Operation	Died.
16	"	T. G.	28	M.	"	"	"	70	3,200,000	2,400	Gastric and intestinal	No.	"	"	"	"	"	"	Medicinally	Recovered.
17	"	M. W.	29	F.		"	"	67	2,500,000	1,500	No	Yes.	Yes.	Yes.	"	"	Mitral murmur	"	"	Improved.
18	"	A. L. W.	29	F.	Negative	Yes.	"	70	3,500,000	6,375	From nose	"	No.	No.	"	"	"	"	"	Died.
19	Sipp	A. B.	29	F.		"	"	70	3,140,000	5,214	" "	"	Yes.	Yes.	"	Yes.	Murmur	"	"	Recovered.
20	Bailey	M. A.	30	F.	Malaria	No.	"	70	3,000,000	1,600	"	No.	No.	No.	"	No.	Mitral murmur	"	"	"
21	Beaulieu	T. B. C.	40	M.	Negative	"	"	55			No	"	"	"	"	"	"	"	"	Died.
22	Rawlins	Italian	25	M.		Yes.	"	60	2,600,000	4,000	From nose	Yes.	"	"	"	Yes.	Pulmonary murmur	"	"	Improved.
23	Brill	D. W.	24	F.		"	"	62	3,200,000	6,400	From mouth and gums	"	"	"	"	No.	No	"	"	Not improved.
24	"	M. E.	24	M.		"	"	55	3,200,000	5,120	From nose and bowel	"	"	"	"	"	"	"	Operation	Recovered.
25	Harris and Harrop	E. O.	29	F.		"	"	60	2,821,000	2,600	Gastric	No.	"	"	"	"	"	"	Medicinally	Improved.
26	"	E.	47	M.		"	"	55	3,264,000	10,200	No	"	"	"	"	"	"	"	"	"
27	Barr		48	M.		"	"	60	2,400,000	5,000	From stomach and nose.	Yes.	Yes.	Yes.	"	"	Mitral and tricuspid murmurs.	"	"	Recovered.
28	"					"	"				Gastric	"	No	"	"	"	Tricuspid murmur	Albumin	"	"
29	"					"	"	30	3,000,000		Gastric and intestinal	"	"	No.	"	Yes.	No	No.	"	Recovered.
30	Warren	F.	28	F.		"	"	65	2,800,000	2,200	No	No.	"	"	"	"	"	"	Operation	Died.
31	Kelley	W. H. K.	27	F.		No.	"	63	3,250,000	6,760	From genitals	"	"	"	"	No.	Systolic murmur	"	Medicinally	Improved.
32	Hare		24	F.		"	"	121	1,300,000	7,000	From nose	"	"	"	"	"	No.	"	"	Died.
33	Peacock		46	M.		Yes.	"	63	4,200,000	4,200	No	"	"	"	"	"	"	Albumin, casts and pus.	Operation	Improved.
34	Lichty	T. S.	28	F.		"	"	48	3,676,000	3,128	From nose, stomach and bowels.	Yes.	Yes.	Yes.	"	Yes.	Pulmonary murmur	"	Medicinally	"
	Average or summary		36	M. 25 F. 9	Malar., 7 Syph., 2		17	34	47	3,398,000	5,594	24	16	7	9	3	8	11	3	‡	‡

* No leucocytosis. † Small. ‡ Summary of treatment and results: Treated medicinally 25, recovered 5, improved 12, died 7; treated by operation 8, recovered 5, died 3.

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reported and I add one more to the list. The subject has been most thoroughly discussed at recent meetings of the Association of American Physicians. And though the name splenic anemia seems to have found a place in literature, some very good observers, including Musser and Stengle, still claim that the condition does not deserve a separate term and place. Wood in his original paper came to several conclusions, two of which I shall mention: 1, "Clinically, the so-called true and false leukemia are the same, save only in the matter of white blood corpuscles"; 2, "all varieties of leukemia are represented in pseudoleukemia."

Osler has collected a series of 45 cases, excluding 17 of his own, from the members of the Association of American Physicians. Of these 45 cases 12 were of an acute type whose duration was from a few weeks to less than a year, 26 were of a chronic type, many of them having been afflicted for many years. The remaining 7 were not classified as either acute or chronic. Reports of these cases were submitted to him by such men as Dock, Musser, Cabot, Kelly, Herrick, Rotch, Wilson, Stockton and others of like recognition. From the limited report which he gives of these 45 cases (many of them perhaps unpublished) one is led to inquire whether all of them were in reality cases of undoubted splenic anemia. Some of them seem to be lacking the bulk of the physical signs of this condition.

In 1883 Banti described the condition and reported 3 cases. In 1894 he contributed further on the subject. In those papers and others published later especial reference is made to the enlarged spleen, also the enlarged liver and the absence of any glandular enlargement. On account of his evidently very accurate descriptions the malady occasionally has taken the name "Banti's Disease." While such credit may be due to Banti there are quite a few who believe that the term should be applied, or can be applied only to the latest and most marked stages of splenic anemia. We have, therefore, the terms "primary splenomegaly (found most frequently and typically in children and infants), "splenic anemia," and "Banti's Disease," all indicating perhaps different stages of the same condition, namely, a splenic variety of pseudoleukemia. To Osler belongs the credit, without any possible doubt, of having given to the profession the greatest number of most accurately reported cases of this kind. But the most complete description, perhaps, of the nature of the affection was given by Sippy of Chicago in 1899; and the most complete discussion of the literature on the subject, it seems to me, was given in 1901 by Wentworth of Boston. Wentworth, in a general way, discussed the subject "Association of Anemia with Chronic Enlargement of the Spleen," but many of his 88 references are to papers dealing almost exclusively with the subject of splenic anemia.

The symptoms of the disease are mainly anemia with low color index, and very commonly leucopenia; splenic enlargement often to the most marked degree; and a tendency to serious, and sometimes even fatal, hemorrhages. Other signs, as melanoderma, enlarged liver, ascites, swelling of the feet and legs, gastrointestinal symptoms, disturbances of the heart and kidney, irregular temperature and cachexia are also frequently present. The duration of the disease is from a few weeks to 15 years or more. You will notice that the case which I have presented showed about all these physical signs. Of the pathology nothing need be said here, and of the etiology only a word. Banti and others have regarded this as a primary anemia, and until we know of a more definite pathology and etiology of any of the primary anemias they can not be considered otherwise. With reference to splenic anemia, though, the profession seems to be looking toward the liver and portal circulation rather than toward the spleen for some causative factor. Barr thinks that the disease is secondary to vasomotor paresis of the abdominal circulation caused by some lesion in the visceral sympathetic ganglia. This theory has some support, though there are many who think that there are multiple causes rather than a single cause for all of this physical change.

The treatment of the disease has been both medical and surgical, of which neither seems to be very satisfactory. Harris and Herzog have collected reports of 12 recoveries from operations on 17 cases, the operation being, of course, splenectomy. To this number they added two more successfully operated cases. Osler has had four cases operated on with three deaths, hemorrhage having interfered much with the operations. Sippy is of the opinion that surgery alone is the proper treatment of this disease when the case is seen early. But he also says: "In reviewing the literature of splenectomy it is exceedingly difficult in many cases to determine the nature of the disease for which the operation was performed. As a rule, the operator has been more concerned in the technic of his operation than in the nature of the pathologic process for which it was performed." And though many patients pass through the danger of hemorrhage and shock from the operation, this does not prove that splenectomy removes the pathology of the disease in spite of the fact that many seem to improve after the operation. Somewhere I have seen the report of a case that died of gastric hemorrhage two years after a successful splenectomy and supposed cure of the case. Such a report adds strength to Barr's theory that the primary cause is not in the spleen, but in the visceral sympathetic ganglia.

Inasmuch as the case which I have reported has had much albumin, a number of casts and pus at times and as the disease is already of more than three years' duration, with a very much enlarged spleen and liver, with occasional ascites and much anemia, and inasmuch as the case has improved somewhat on a symptomatic treatment I hesitate to advise the risk of operation in her case, though appreciating fully the danger of another hemorrhage such as she had a year ago.

From considerable literature on the subject I have collected and tabulated the following cases, and will add the summary. Cases of primary splenomegaly in infants are not included in this list. All are undoubted cases of splenic anemia or Banti's disease, and with one exception all are adults. From what has been said before one would think it an easy matter to tabulate a hundred or more cases, and I must confess that this list is small, since half of the number has come from the writings of one man alone. But on account of the limited report which many of the authors give of their cases it has been found somewhat difficult to give a very large complete report of cases in the time which has been at my command. However, the following data may be interesting to some. Of the 34 cases collected 26 were males, 8 females and the average age was 36 years. A history of malaria was found in but 7 cases and of syphilis in only 2 cases. Melanoderma was present in 17 cases. Splenic enlargement was well marked and the most prominent feature in all of them. Hemorrhage occurred in 24, hemorrhage from several sources

in the same individual not uncommonly. Of these 34 cases 15 had hemorrhage from the stomach, 8 from the nose, 7 from the bowels, 1 from the mouth and gums, 1 from the kidney and 1 from the genitalia. Next to splenic enlargement the anemia was the most striking symptom, being well marked in all of the cases, with a low color index and usually a leucopenia. In only two cases was there an excess of leucocytes. The average percentage of hemoglobin was 47 per cent., average number of red blood corpuscles 3,293,000, and of white corpuscles 5,594. If we exclude the two cases in which there was a leucocytosis, the average number of leucocytes is 4,381. The liver was enlarged in 16 cases, small in one case (Benedict). Ascites was present in 7, swelling of the feet and legs in 9, glandular enlargement in 3, gastrointestinal symptoms in 8, and cardiac murmurs, generally hemic, in 11. In only two cases aside from my own is there any report of albumin in the urine and then "only a trace," while my case has had considerable albumin at times, as well as some pus and casts.

The summary of the treatment and its results is most interesting. Of the 25 cases which were treated medically only 5 are recorded as "recovered," 12 were improved, 1 "not improved," and 7 died, hemorrhage having been the most common cause of death. Operation was performed on 8 cases, of whom 5 recovered and 3 died.

SQUINT.*

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Squint ought to be made an annually discussed subject at mothers' meetings, for it is through the mother that it must be detected, if this improper functional condition is to be corrected. It is not merely a question of two good eyes, although physiologically we need all our organs in the best of working order; cosmetically, the individual is nearer the type of perfect man if he not only sees with both eyes at once, but if the intended relationship of one visual axis to the other is constantly maintained; if no squint is observable. The young adult feels the effect of a cosmetic imperfection very keenly, and is grievously disappointed to find, when treatment or cure is sought, that the operation does not always lead to even cosmetic improvement, and that in the great majority of cases the squinting eye, if it does not persist in squinting, is, after all, a rather useless organ, on which no trust can be placed.

The correction of a squint, and if possible the restoration of function, must, then, be begun in early childhood. This is a fact not so much known, nor so usually accepted, even in our own profession—not even among all physicians who make a specialty of the eye—and the family counselor is sometimes guilty of saying that the child will outgrow its squint, or that the time to heal it, perhaps to operate on it, is about or after puberty. No greater error can be made. The time to treat a squint is as soon as it is noticed, which is very early in life, and the causes of the squint must be well understood before this advice is taken to heart and any treatment attempted.

Let me emphasize this statement: that many completely blind eyes do not squint—they jog along with their fellows content to obey the impulses from the brain without protest or discontent. On the other hand, most squinting eyes do see something, or did earlier in life, and at the beginning of the trouble they protested vigorously at the impulses from the brain and tried to act by themselves; tried to see something till they fell into bad habits, and long after they gave up trying to see accurately, they continued these bad habits and can not be reformed.

What, then, is squint? Of course, there is a paralytic squint, due to some acquired interruption to the nerve impulse or to injury to the muscle, but these are always characterized by double vision and usually come on later in life, through disease or trauma after the fusion faculty has been established. This may be called an organic lesion. The type to which I refer is, in contrast, called concomitant squint and has its origin in a functional disturbance, and the disturbed function is that of fusion. It arises early in life before the function is well established, and not being such a long-inherited function or instinct—for we know that binocular single vision is possessed by but few of the highest animals—it is easily disturbed. Generally, there is some exciting cause, such as a fever, a shock or fright, in childhood before the sixth year, while this habit is becoming acquired, and when weakened or lost, it is so delicate a function that neglect may often destroy it altogether, while to re-establish it demands attention, training, or the stimulus to spontaneous exercise of the habit, by placing the eyes in such relationship to each other that it is as easy to exercise as it is to neglect this function.

Herein lies the great error on the part of both physician and parent, the assumption that the child will "grow out" of the habit of squinting. Perhaps he will, but in the great majority of cases only at the expense of the vision of the squinting eye. Once have it well understood that treatment should begin early, as soon as the defect is seen, and there will be fewer squinters in the world, more sound eyes, and less complaint that the operation so seldom accomplishes what is expected of it.

The diagnosis is easy. Any layman can tell when a child or adult squints, but the etiology in the light of modern study shows that neither nerves nor muscles are primarily at fault. It is the brain, where the fusion function is located, and it is the brain we must first educate before we can hope to control the eyes. Usually —not always—one eye will be found to see less distinctly than the other eye, the difference in degree varying with the individual and the duration of the squint. The result of disturbed fusion sense is imperfect innervation, exaggerated accommodative effort in one eye—squint.

The treatment resolves itself into three factors: (1) Correction of refractive errors; (2) training of fusion sense; (3) operation.

Of these, the first is the essential factor, and without it practically no case of squint can be overcome, or if the eyes do later in life grow straight, it will be at the expense of the vision of one eye.

The second factor is of great importance, and implies such methods as the occlusive bandage, perhaps atropin to the good eye, stereoscopic, amblyoscopic and other visual exercises.

The third factor is operation, which is usually necessary, though squint may be entirely overcome without it. As a rule, however, some operation on a rectus muscle is necessary, and my later preference is for the advancement of a rectus muscle.

103 State Street.

* Read before the Chicago Medical Society, 1903.

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A CLINICAL NOTE ON OBSCURE CASES OF SEPTIC FEVER.

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There is a great defect in medical literature, in that men write chiefly concerning those things which have been impressed on their minds as well-defined pictures. The result is that there are whole classes of cases that do not receive that attention which would lead to a comparison of ideas, thus rendering them more clearly understood.

To illustrate: Every year two or three cases come under my observation, which I can best describe as cases of septic fever of obscure origin. In many instances they have proved very puzzling. The temperature, which is the principal symptom, runs an irregular course. The rise in temperature may sometimes be preceded by slight chills, but these are not particularly striking. The patient loses flesh and strength and presents the appearance of being slightly septic.

These are cases involving a great deal of responsibility, because it is so difficult to exclude local disease that should be treated surgically. It is difficult to exclude tuberculosis, and hard to be sure that the patient has not typhoid or malaria.

As a rule, recovery takes place after a long course of irregular temperature, but some have been fatal, one developing malignant endocarditis and several dying of exhaustion. One case developed an acute pleurisy shortly before death, and this was the only lesion found at autopsy. It should be the office of the bacteriologist to discover the nature of the difficulty.

I have no doubt that this brief description will call to the mind of every practitioner many such cases.

The best treatment I have discovered is forced feeding, with the use of a moderate amount of alcohol and tonics. Particular attention should be given to the abundant ingestion of eggs and milk. We have no specific to combat the action of the germs, so we must fortify the inherent power of the blood to defend itself, and this is best accomplished by attention to nutrition.

54 West 55th Street.

THE RED CROSS SOCIETY OF JAPAN.

N. SENN, M.D.
CHICAGO.

When the writer made the trip around the world in 1901 it was not difficult to foretell that war between Russia and Japan was only a question of a few years. All through Russia and Siberia active preparations were being made for the inevitable conflict. Japan was ready at that time to meet its formidable foe. The strained relations between the two countries continued longer than I had reason to anticipate from what I saw and heard on both sides. The desperate struggle for supremacy in the far East has commenced, and from present indications it threatens to develop into what historians of the future will describe as the great war of the twentieth century.

We physicians are less interested in the political aspects of this war than in the treatment of the sick and wounded on both sides. Russia has always been the staunch friend of the United States, and our nearer neighbor, Japan, which has so recently taken its place among the international powers, has earned our respect and friendship by its progressiveness and dignified conduct in peace and war. It is a source of comfort to know that the present war, regardless of the proportions it may reach or the length of time it will last, will be conducted on the most humane principles, compatible with active warfare. It will be stripped of all barbarities that have until within a few years disgraced the battlefields of the past. Both armies are supplied with the small caliber weapon, and both armies are in care of well-educated and efficient medical officers, and are followed by a sufficient number of well-trained members of the Red Cross Society to care for the sick and wounded.

The Red Cross Society of Russia is the richest in the world, having $8,000,000 in the treasury at the present time; it is well organized, and will do efficient service from the very beginning. The Red Cross Society of Japan has a membership of 800,000, with ample means to extend its work to the seat of conflict, at any rate for a number of months.

The writer has the honor to be a life member of the Red Cross Society of Japan, and as such offered his gratuitous services when war was declared. The daily press, unfortunately, has circulated distorted reports which have caused no end of confusion in the minds of professional men and nurses. I have been for a number of days fairly deluged with letters from doctors, students and nurses from all parts of the country, offering their services. Neither Russia nor Japan need any outside help in the care of their sick and wounded for the present, and it is only in case the war should be prolonged for six months or more that the Red Cross societies of other countries would extend a friendly hand. In such an event Germany will assist its neighbor, Russia, and we in the United States would naturally extend the work of our national Red Cross Society to Japan. Miss Clara Barton, the president of our American Red Cross Society, who is a veteran in this kind of work, is undoubtedly making all necessary preparations at this time to step in at a moment's notice should occasion arise. The profession looks to her to take the necessary steps when the proper time arrives.

The public and the profession have, on the whole, a wrong idea of what Japan can do for the sick and wounded of her army now in deadly combat with the most formidable military power in the world. It is for this reason I am desirous to inform the readers of THE JOURNAL of the American Medical Association of the present status of the Red Cross Society of Japan.[1]

The noblest of the many charitable institutions that have sprung up in Japan since this country opened its doors to the outer world is the Japanese Red Cross Society. Since the organization of the Geneva convention by Henri Dumont in 1864, most of the civilized nations of the world have established Red Cross societies for the purpose of minimizing the horrors of war, and to render aid to the victims of great catastrophies. In no other country have these humane efforts met with such unparalleled success as in Japan. This is certainly a startling statement when we remember that modern civilization was introduced into this country less than fifty years ago.

The Red Cross Society of Japan was founded in 1877, during the insurrection in the southwest provinces. It had for its object the relieving of the wounded and sick on the fields of battle, and the taking care of them, for this it adopted the name of Hakuaisha (Society of Benevolence). After the rebellion was crushed the society made itself a permanent organization and decided to make ample preparations for similar emergencies. When the imperial government recognized the articles of the Geneva convention, the society decided to strengthen its bases and to extend its operations, to place itself in connection with the International Committee of the Red Cross at Geneva, and to enter into fraternal relations with similar societies in friendly countries. This resolution, having been adopted at a general meeting, the society, with the approval of the ministers of the imperial household, of war, and of the navy, changed its name to "The Red Cross Society of Japan," and adopted rules and regulations for its government.

The growth of the society has been phenomenal. It has at present 900,000 members, which simply means that nearly every family is represented, estimating the population of the country at 45,000,000. What has achieved this unparalleled

1. I shall quote freely on this subject from my book, "Around the World via Siberia."

success? By what means has Japan outstripped every other country in making provisions for the disasters of war and other great national calamities? These questions are not difficult to solve for anyone who has seen the workings of the Japanese Red Cross Society. The imperial family takes a deep interest in this organization, and contributes liberally to its funds. An imperial prince is its honorary president, and a princess the president of the ladies' committee. The empress is a frequent visitor to the headquarters of the society and to the Red Cross Hospital. This noble example is a potent factor in arousing popular interest in this national institution so dear to every Japanese. Then again, the imperial family has the utmost respect for the leading medical men. Baron Ishiguro and Baron Hashimoto, the most influential medical men of the Japanese medical profession, have been the guiding spirits in promoting the growth and usefulness of the society, and their efforts have been supported by a united loyal profession. The Japanese are easily reached and led by such powerful influences, and have responded promptly and liberally to such noble examples.

Popular interest is aroused annually by a great public gathering of the members of the society from every part of the island empire, at which lectures are delivered by medical men, illustrated by magic lantern pictures showing the actual practical work of the society. These meetings are usually held in the Uena Park, Tokio, and the attendance is seldom less than 200,000. Baron Ishiguro informed me that the lantern illustrations attracted a great deal of attention and contributed the most in popularizing the society, and as a means of practical instruction in first-aid work. Then, too, it must not be forgotten that the Japanese people are fully imbued with the spirit of progress, and that they are well aware that they have entered a stage of international life that may bring at any time serious emergencies they may be called on to meet; in other words, they believe in making ample preparations for war before the war clouds make their appearance, and it is for this reason that the present war did not come as a surprise.

The headquarters of the society are in Tokio, and consist of a number of buildings for the central office and store rooms. It was through the courtesies of Barons Ishiguro and Hashimoto I was privileged to inspect every department as well as the military schools and hospitals. The central office is a capacious, well-lighted room luxuriously furnished. Here the committee meetings are held. Adjoining this room is one set aside for the imperial family. The elegant furniture and magnificent oil paintings of the emperor and empress impart to this room the aspect of royalty. It was the contents of the storerooms that astonished me, and that gave such vivid evidence that Japan was well prepared for war, the amount of hospital supplies being something enormous. Stacks of uniforms and black dresses and white caps for the female nurses, lanterns, canteens, blankets, bedding, cots, medicines, tents, wagon loads of dressing material, field chests, litters, and trains of ambulances filled the many capacious rooms to their ceilings. Within a day or two the Japanese Red Cross Society can load a hospital ship or railroad train and leave for the seat of war without causing the least anxiety or confusion. The surgeons and nurses are ready at all times to respond to the call, and the arrangements of the hospital stores are so systematic that they can be transported in the shortest possible space of time. The Red Cross surgeons and nurses, male and female, are under military rule and do their work in the hospitals behind the fighting line.

The society owns and operates two hospital ships, the Hakuai-Maru and the Kosai-Maru, admirably constructed for the transportation and care of the sick and wounded.

The Red Cross Hospital in Tokio is the best of the many good hospitals in that city. It is in this hospital that the Red Cross female nurses receive their education and training. It has a capacity of 250 beds, and is attended by a staff composed of the very best physicians and surgeons of the city. The central figure of the staff is Baron Hashimoto, one of the retired surgeons-general of the army. The nurses receive the most practical kind of instruction by lectures and demonstrations given by members of the staff. They are made nurses, and not half doctors, as is the case with many of our training schools. They serve an apprenticeship of three years, and on passing a satisfactory rigorous examination receive the necessary credentials, which entitle them to enter private practice, and in the event of war they enter the field service under military rule. These nurses compare well with the trained nurses of our own country, and it seemed to me that in many ways they are better adapted for service in the field, as their needs are few and their quiet, gentle behavior can not fail in securing for them the respect and confidence of the disabled soldier.

From the above it may be gleaned that the Red Cross society of Japan is well prepared to meet the emergencies of the present war, and that outside help, at least for the present, is not called for, and should such an event arise it will become the duty as well as the pleasure of the Red Cross societies of other countries to bring the needed relief. The experience of the last few days has demonstrated again the innate nobility and unselfishness of our profession. I have received and placed on file nearly 500 applications for medical service in Japan, more than half of them from physicians. These letters prove that the commercial spirit so rampant in many localities has not infected the entire profession. Less than twelve of the applicants referred to financial considerations, most of them offered their gratuitous services, and not a few were willing to defray their own expenses, certainly a record of which we have reason to feel proud.

As this article goes to press I receive the following telegram from Baron Hashimoto in reply to my request for gratuitous service in connection with the Red Cross Society of Japan:

TOKIO, December 15.

Dr. Senn, Chicago:

Regrette ne pouvoir accepter votre proposition.

HASHIMOTO.

This message only confirms what I have said concerning the efficiency of the Red Cross Society of Japan, and should, for the present at least, check further applications for medical service in Japan.

Clinical Report.

ECTOPIC PREGNANCY

TWICE IN THE SAME PATIENT WITHIN FOURTEEN MONTHS—OTHER CASES.

FLORUS F. LAWRENCE, M.D., D.Sc., LL.D.

Clinical Lecturer, Diseases of Women and Abdominal Surgery, Starling Medical College; Chief of Staff and Surgeon to the Lawrence Hospital.

COLUMBUS, OHIO.

The question of leaving an apparently healthy fallopian tube when the opposite one is the site of an ectopic pregnancy has been and still is debatable. The following case is one more clinical argument to be added to others and to clinically reinforce the logical arguments (based on pathologic findings) in favor of removing both tubes or at least obliterating the apparently healthy tube.

Mrs. O. A. S., a physician's daughter, aged 26. Seen in consultation with Dr. C. S. Carr, May 3, 1902. She is a well-nourished, robust woman, mentally and physically much above the average; has been married 3 years, and never has been pregnant, so far as she is aware. She has never missed menstruation. She has marked neurotic disturbances. Her father found on examination a tender mass to the left of the uterus, which, together with other symptoms, made him suspicious of an ectopic pregnancy. May 3 he called me. On examination I found to the left of the uterus a mass which, on careful investigation, proved to be undoubtedly the enlarged fallopian tube, of the peculiar consistence found only in unruptured ectopic pregnancy. A diagnosis of extra-uterine pregnancy was therefore made and the patient immediately removed to the Lawrence Hospital and prepared for operation. The operation was performed May 4 and a left tubal pregnancy removed (Fig. 1). At the request of the physician and the

patient, the right tube, which was apparently healthy, was left.

June 24, 1903, Mrs. O. A. S. called me to see her again. I found her presenting the symptoms of pregnancy, and on examination found all the physical signs of an early pregnancy with the additional unwelcome sign of thickening and some tenderness of the right fallopian tube. I saw her again on July 1, at which time the enlargement of the tube was so marked that I called the attention of her father to it and told him that I very much feared we had another ectopic pregnancy. From this time I saw her every day or two until July 24, when Dr. D. N. Kinsman saw her with me, and

Fig. 1.—Tubal pregnancy.

agreed in the diagnosis of ectopic pregnancy. She was admitted to the Lawrence Hospital July 25, operated on July 27, and an unruptured right tubal pregnancy removed (Fig. 2). The tube was almost ready to rupture.

This is one of three cases coming under my observation in which leaving the apparently healthy tube resulted in like manner. One of these occurred while I was assistant to Lawson Tait. The patient had been successfully operated on by a German surgeon for a right-sided tubal pregnancy two or three years previously. Mr. Tait was called to operate on her for a ruptured left tubal pregnancy in November, 1894, and I assisted in the operation. He said then: "To leave

Fig. 2.—Tubal pregnancy.

a fallopian tube in a woman who is the victim of extra-uterine pregnancy is to needlessly, if not criminally, endanger her life in the future."

Another case was Mrs. G. H. E., on whom I operated March 9, 1897, removing a pregnancy of the left fallopian tube. June 17, 1901, I was again called. She was moribund, and died very soon. A postmortem showed the abdomen filled with blood from a ruptured ectopic pregnancy of the right fallopian tube.

The present case of Mrs. O. A. S. forcibly emphasizes the danger of such a practice. It should be remembered that ectopic pregnancy never occurs in a normal condition of the uterus and the fallopian tubes; that there is always a preceding tubal disease; that the particular form of tubal disease, viz., desquamative salpingitis, is bilateral; that there is practically always an accompanying localized peritonitis affecting the tubal covering; that the consequent probability of a normal pregnancy is slight; that the danger of an unrecognized or unsuspected tubal gestation can not be estimated; that extra-uterine pregnancy may go to rupture before it is suspected, and that ruptured ectopic pregnancy is very apt to be fatal.

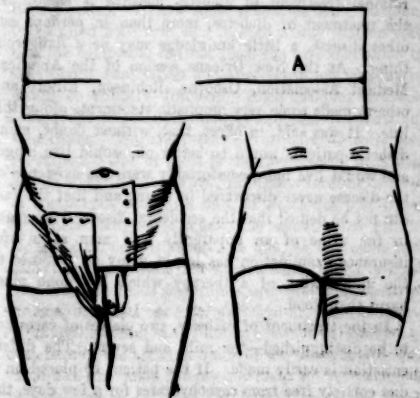
New Appliance.

AN INGUINAL BINDER.

ALLEN B. KANAVEL, M.D.
CHICAGO.

Any surgeon who has dressed a suppurating limb or examined an inguinal operation and as a consequence redressed the wound with a spica or some variety of a roller bandage, will appreciate a suggestion which enables one to do this with little trouble, and yet make a dressing that is more comfortable to the patient and more satisfactory to the surgeon.

Take an ordinary abdominal binder, measure off about four inches width at one end and tear the cloth half its length.



(See A in the illustration.) Now apply the binder with the untorn end on the side where the wound is to be dressed. The tear in the goods will then extend to the median line posteriorly at the tip of the sacrum. Now tear the other end, taking a corresponding width down to the inguinal region, i. e., the untorn part will extend from the median line posteriorly around the leg of the affected side to the inguinal region. Now the wider part is applied as any abdominal binder. The narrower ends are brought around the leg of the affected side, the short end being pinned to the longer, the end of which in turn is brought up over the wound on to the abdomen and fixed. As the dressing now stands, by removing the three or four pins which fix the tails the wound can be easily uncovered and redressed; moreover, it is very comfortable to the patient, the wound never becomes uncovered, and the dressing simply can not come off.

6027 Prairie Avenue.

Isolation of Tuberculous Pupils.—In an address on "Tuberculosis from an Educational Standpoint," before an organization of public school principals in Chicago, Dr. George W. Webster, president of the Illinois State Board of Health, recommended segregation of such public school scholars as should be found to have pulmonary tuberculosis. He urged a state sanatorium for the care of tuberculous persons.

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THE TREATMENT OF DIABETES.

Notwithstanding the large amount of research work which has been done on diabetes mellitus and the number of articles which have been written on its physiologic treatment, the disease is still improperly treated by too many physicians. The explanation doubtless lies in the lack of facilities for quantitative examinations of urine, and in the lamentably slow spread of that newer knowledge of the body metabolism, on which the rational treatment of diabetes mellitus is based. In the treatment of diabetes, more than in perhaps any other disease, a little knowledge may be a dangerous thing. At the New Orleans session of the American Medical Association, Osborne, Robinson, Elliott and others[1] made some very emphatic statements along this line. It was said, in effect, that, without doubt, many diabetic patients would be better off, would live longer and would live more comfortably were the existence of the disease never discovered in them; and that the fact can not be denied that the accidental discovery of sugar in the urine of an apparently well man at a life-insurance examination has led in many an instance to the undertaking of a therapy which has done more harm than good.

In the treatment of diabetes, two classes of cases are to be distinguished—the mild and severe. The differentiation is easily made. If the patient be placed on a diet entirely free from carbohydrates for a few days, the sugar will entirely disappear from the urine if the case be a "mild" one, while if it be "severe" some sugar will continue to be excreted in spite of the rigid diet. Should the case be of the "mild" type, the tolerance of the patient for carbohydrate food should next be established. By giving 30 grams of white bread, in addition to the albumin and fat of the rigid diet the first day and increasing the amount of white bread by 20 grams daily until sugar begins to reappear in the urine, the patient's capacity for oxidizing sugar can easily be determined. This having been done, the patient, if placed on a diet somewhat poorer in carbohydrates than that corresponding to the level of his tolerance, may very gradually be given a diet richer and richer in carbohydrates without the reappearance of sugar in the urine, until finally he may be able to resume a normal diet. In other words, judicious dieting of the diabetic patient increases his capacity for the oxidation of sugar, whereas if his diet be neglected and he be permitted to eat what he likes, his capacity for oxidizing sugar diminishes, and a case mild at first and perhaps curable, may quickly be converted into one of the severe type.

Practically all mild cases feel better when the urine is thus kept free from sugar. The hunger grows less, the thirst diminishes, the weariness disappears, and there are fewer nervous symptoms. Occasionally, however, a "mild" case does not do well on this treatment. If the patient begins to emaciate and to feel very tired, the amount of carbohydrate food should be increased, even if the urine does not remain entirely free from sugar, for here the general feeling of well being on the part of the patient is the physician's best guide. Much can be done, too, to add to every patient's comfort by varying the form in which the carbohydrate is given at the different meal times. With the aid of the tables now available, the equivalent of the starch of a given number of grams of white bread in say rice, potatoes, maccaroni, fresh peas or green beans, or in the various forms of "diabetic bread," may easily be ascertained, and the carbohydrate food should, once the tolerance has been established, be varied as much as possible.

In the treatment of cases of the "severe" type, it is not practicable to proceed so schematically as in the treatment of cases of the "mild" type. The "severe" cases, on a diet entirely free from carbohydrates, still excrete sugar in the urine, the body being unable even to oxidize the carbohydrate moiety of the breaking-down molecules of albuminous food. But it would be a grave mistake to keep such patients for a long time on a diet entirely free from carbohydrates with the idea of reducing the sugar in the urine to a minimum. Even the normal body with a diet free from carbohydrates, will begin to build acetone and aceto-acetic acid and later beta-oxybutyric acid, and these substances will appear in the urine. Every diabetic patient placed on the rigid diet soon begins to excrete these bodies in the urine, and if acetone does not appear, the physician may be sure that the rigid diet prescribed has not been adhered to. The rule, then, in severe cases, is to begin with a rigid diet. If the acetonuria which comes at first, disappears again, and the patient in general feels better, it may be continued; but if the acetonuria is intense and beta-oxybutyric acid begins to appear in the urine, the rigid diet should not be continued, but enough carbohydrate given to make these organic acids disappear. There seems no longer to be any doubt that the graver nervous symptoms of diabetes, including the much-dreaded diabetic coma, are directly related to the presence of organic acids in the blood; it is, therefore, much more important in the severe cases to prevent acid-intoxication than to keep the urine free from sugar.

In conclusion, then, it may be said, that in "mild" cases as much carbohydrate as possible should be given as long as the urine remains free from sugar. The patient goes into "carbohydrate-training," as it were,

1. THE JOURNAL A. M. A., Jan. 2, 1904, pp. 21-22.

to increase his tolerance by augmenting his sugar-burning power. In the "severe" cases, as much carbohydrate should be given as is necessary for the general well being of the patient and for the prevention of acidosis. The rigid diet entirely free from carbohydrates should, therefore, in such cases be avoided, and the acid-intoxication may also be combated by the administration of 10 grams of bicarbonate of soda in the twenty-four hours.

THE REMOVAL OF GOUTY TOPHI AND URATIC CONCREMENTS.

The caprice of fashion in therapeutics has been, perhaps, nowhere more evident than in the series of methods which, from time to time, have been introduced for the treatment of urate deposits and the so-called "uric-acid diathesis." Nearly every method has been an attempt at rational therapeutics; a particular drug has been employed because, according to the theory in vogue, it increased the solubility of uric acid or its salts. Strangely enough, modern inquiry has shown that in nearly every instance the theory lying at the basis of the "rational" therapy has been false; and the discarded group of remedies occupies a goodly area in the therapeutic rubbish-chamber.

Since Pearson, in 1798, recognised uric acid as a constituent of gouty deposits, efforts have been made to find a suitable solvent for them. The alkalies have, perhaps, had the longest trial. Borax was at first widely employed, but it gave place later to other salts of sodium and salts of potassium; and since Garrod's time the salts of lithium have been especially vaunted. Some have preferred a mixture of different alkaline salts, the uric din of stroschein, for example. A new era seemed to be opened when it was discovered that certain organic bases increased the solubility of uric acid in water, and it was hoped that by the administration of piperazin, lycetol, or lysidin the woes of the gouty could be speedily ameliorated. These hopes, however, were doomed to disappointment; even china-acid, with its lithium salt, urosin, and its piperazin salt, sidonal, has been added to its obsolete forerunners. The failure of the whole group is easily understood when the defect in the theory is pointed out. While it is true that the bases mentioned above make salts which are more soluble than sodium urate in pure water, yet they can not be so in the blood or in the urine. For as His and Paul, applying the newer conceptions of physical chemistry to the problem, have shown, the solubility of any urate in the blood is diminished by the sodium salts of the blood. Thus the solubility of sodium urate, for example, is decreased by one-half in a sodium chlorid solution containing 0.046 per cent. of salt. Nor does it do any good to bring into the solution along with sodium urate other bases whose uric-acid salts are more soluble than sodium urate; for physical chemistry teaches that on bringing an acid together with several bases the first salt to fall out of solution is that whose "solubility-product" is smallest. It is obvious, therefore, that it is hopeless to effect the solution of uratic deposits through the direct action on them of solutions of lithium and piperazin, and it is further clear that the giving of sodium bicarbonate to dissolve uric-acid calculi must, as far as the direct action of the salt is concerned, make the deposit less rather than more soluble.

The empirical observation that gouty patients are benefited by the long-continued use of alkaline mineral waters must, therefore, be explained on grounds other than those usually assumed; the benefit must be due to some indirect metabolic effect rather than to any direct solvent action on the calculi or tophi. Uric acid in solution undergoes slight electrolytic dissociation into a hydrion and an anion, consisting of the rest of the molecule, urate of soda into the sodium cation and the same anion. It is on this dissociation that the reactions of uric acid and urates, as well as their solubility relations, depend. If now some substance could be found that united with uric acid in such a way that on solution the compound did not form the uric-acid anion on electrolytic dissociation but some other ion, the matter would be entirely different. Such complex uric-acid compounds might have entirely different reactions and solubilities. We are becoming acquainted with such substances. One of them is the thymus-acid of Kossel, and another is formaldhyd, the latter forming a series of compounds with uric acid, of which the best known is diformaldehyd-uric acid. The solubility of diformaldehyd-uric acid is about 1 to 400, an enormous solubility compared with that of uric acid, which is about 1 to 38,000. Acids precipitate uric acid from urate solutions, but not from diformaldehyd-uric acid solutions. It is possible that this substance would be soluble and resistant in the alkaline fluids of the blood and tissues.

One of the most interesting facts yet discovered in this connection concerns the fate of urotropin (hexamethylentetramin) when administered to human beings. In some way or another—just how is not known—it converts a part of the uric acid excreted in the urine into formaldehyd-uric acid. It is, however, as His has pointed out, far from being an ideal drug, for, aside from its irritating effects, even when as much as 6 grams are given per day it is capable of transforming only about one-fifth of the uric-acid output into the more soluble formaldehyd-uric acid. But urotropin therapy seems a step taken in the right direction, and we may hope that through the seething activity of the pharmaceutical chemist, some substance acting similarly but much more powerfully without harm to the organism may yet be discovered.

In the meantime, we have nothing better to offer our gouty patients than a well-regulated regimen—a carefully chosen rather spare diet, the interdiction of all alcohol, copious water-drinking, at least two hours' exercise in the open air daily, and appropriate balneo-

therapy and mechanotherapy. Where gouty deposits occur about the joints, most can be accomplished by the excitation of local phagocytic activity, and herein doubtless lies largely the efficacy of thermal baths, hot applications and local massage.

SUICIDE IN CHILDHOOD.

It is contended by some that suicide is a symptom of mental aberration, but while such a view is not in strict accordance with the facts, it will be found that, apart from those unequivocally insane, the suicide is one who has been ill or has suffered loss or disappointment or ill treatment, real or fancied. Statistics show that suicide is increasing in frequency, and the reasons therefor are all too obvious. In the intense struggle for existence, in the eager contest for power, in the mad race for place and position, some must inevitably meet defeat and disappointment, and some must be left behind; and it is from among these that is recruited a large part of the army of those that seek refuge and oblivion in self-destruction. The burden naturally falls most heavily on those that have reached maturity, but children do not entirely escape, and it will perhaps be a matter of surprise to many to learn of the frequency with which suicide occurs among the young. Thus Dr. Ernö Deutsch[1] of Budapest has collected from various Continental sources 200 cases of suicide in children, and he refers to 49 additional cases collected by Siegert and to 50 collected by Ferriani.

The causes that lead up to the commission of the act are divisible into the general, predisposing, and the special, exciting. Lack of religious spirit has been assigned as a predisposing cause, but suicide is scarcely known among non-religious savages. It has been stated that suicide is more common in proportion to the degree of culture of a community, but this is notably not true of England. There is, however, a danger in the burden of excessive school work, so generally imposed on children at the present day, with its competitions and examinations, and its inevitable failures and disappointments. Disturbing political conditions and states of war are of influence only so far as they have an effect on the family. Poverty is a most important factor, the children being overwhelmed by the difficult and often unsuccessful struggle for existence on the part of the parents. Physicians and jurists have been inclined to look on the suicide as an abnormal individual, mentally deficient, and this has been found to be so actually in not a small number of instances. As in adults, the vast majority of suicides in children—up to four-fifths—occur in males. The largest number is observed between the ages of 11 and 15 years, and here, again, there is evidence of the important etiologic influence exerted by school work, suicide in children being most frequent toward the close of the school term.

1. Deutsches Archiv für Kinderheilkunde, 38, B. I, II, H., p. 27.

The exciting causes may be single or multiple. Among the most important of these are punishment and fear of punishment, school matters, psychoses, domestic difficulties and vicious habits. The mode of death depends somewhat on the social position of the parents. Drowning is most common, then hanging, shooting and jumping from windows.

In view of the facts in the case it would seem that the remedy to be applied, in order to diminish the frequency of suicide among adults and children alike, consists in a return to a simpler and less strenuous mode of life, so that mental and physical strain shall be lessened and the measure of individual and communal contentment increased.

VITAL STATISTICS.

The progress that has been made in collecting mortuary and vital statistics is a matter of congratulation to the medical profession. Sources of error are being eliminated, approved methods are receiving wider adoption, and the facts deduced from these figures are coincidently becoming more valuable and more authoritative. Occasionally there is an obstacle in the march of progress.

Almost every law requiring the reporting of births provides for the payment of a small fee to the reporter. The absence of such a provision in the law of St. John, N. B., has been, in part, the cause of the resistance of that law by the St. John physicians. We have mentioned this matter as news.[1] In protesting against this law, the medical men assert that by reporting births they violate the confidential relationship between them and their patients. They assert that they are made spies and informers, and they "object to being made statistical officers without our knowledge or consent and without remuneration." Of the question of privileged communication, there is an easy disposal, for, under the dominion law, concealment of birth is a criminal offense. It would seem that the physicians had left a very good chance for others to attack their argument on the ground that their strongest objection is that they are not to be paid for giving information required, and a lay paper[2] has very pointedly found this opening in their defense. It says: "We are left to infer that if they were paid for giving this information they would be willing to forget the confidential relationship referred to." The paper calls attention to the fact that the physicians of New Brunswick are well protected by law from competition with irregular practitioners, and that it would seem only fair for them to report births as a partial expression of their appreciation of the protection. The point is well taken. The restriction of the right to practice medicine to those who are properly prepared is in the interest of the public; so also is the law requiring the reporting of births. The latter requirement seems to us to be a duty of some one certainly—and to whom

1. The Journal, Nov. 21, 1903, p. 1280, and Jan. 16, 1904, p. 182.
2. Fredericton (N. B.) Gleaner, Jan. 4, 1904.

could it more fittingly be given than to the one who officiates at the birth of a new protégé of the government?

The physician has always been, to some extent, an adviser in things medical of the powers that be, and he has desired even more of such an official capacity. The profession has always emphasized that medical matters should be under its control. There should be remuneration, of course, but that is a minor point. Regardless of the question of pay, it seems a step backward for physicians to object to reporting births.

THE QUADRUPED CURE FOR APPENDICITIS.

Civilization and the unnatural habits into which men drift are held responsible for many conditions of ill health, and a more natural life would presumably relieve the difficulty. The latest cure for appendicitis, as announced by cable from Berlin, is for the patient to walk on all fours for twenty minutes, four times a day. The theory on which this treatment is based is that "certain muscles around the vermiform appendix are brought into play and strengthened by this quadrupedal cure, which are unused when a biped walks erect; others are relaxed and the localized inflammation has opportunity to subside." Exercise is often beneficial and a change of habit might pacify a grumbling appendix. Before long, therefore, we may see our hospital corridors and solariums full of patients walking on all fours like the majority of other animals. With this encouragement, atavism might cause a reversion to the chimpanzee type.

POLITICS AND CHARITABLE INSTITUTIONS.

The *Illinois Medical Journal*, in its late issues, has been doing good work in calling attention to the needs of the Illinois state institutions. The greatest of such needs, both in Illinois and in many other states, is to be freed from their present incubus of political control which has ridden them for many years. Previous to 1893, the political element in the management of the Illinois state charitable institutions was of a comparatively mild and innocuous type; while it might be occasionally in evidence to their disadvantage it was not conspicuous, and to the general public these institutions were nonpolitical. Up to about fifteen or sixteen years ago it was the rule to recognize the minority in the appointment of trustees, an arrangement not as ideal as ignoring politics altogether, but one that helped at least to keep partisanship out of these administrations. Of late years, however, matters have been getting progressively worse, partisanship has become the controlling force, and the public confidence and pride in the institutions have been to a large extent dissipated. The condition is all the worse in that it is in striking contrast with that of some of other states where better methods prevail. The Chicago *Tribune* takes up the *Illinois Medical Journal's* suggestions, and advocates the appointment by the legislature of a commission to investigate and report on the best remedy for the present evil conditions. It further remarks that the numerous candidates for governor at the present time have each a "big interrogation craning its neck at them," whether they will or will not further this investigation and expedite the introduction of a civil-service reform. The citizens of Illinois, and, we may add, of other states in which the trail of the spoilsman is over the charitable institutions, owe it to themselves and to the helpless charges of the state to see that a satisfactory answer is given. Civil-service reform may not be the cure-all that some anticipate, but it will be a vast improvement over the "slush fund" system of diverting appropriations made for charity to the uses of political partisans. The medical profession ought to be in the foreground in this reform, the need of which unfortunately is not confined to any one state. It is an encouraging feature of the situation that the political press, aside from party prejudices, as in the case above noted, is ready to take up the subject on the right side.

ALCOHOL AS A FOOD, AGAIN.

The value of alcohol as a food can be efficiently tested only by extensive observation. Its determination in a purely academic sense is of no practical value or of special interest. It does not follow that, because it may be assimilated and may become a source of energy in the system, that it is a desirable or a useful article of diet. When we get down to hard business facts, such, for example, as the experience of life-insurance companies, we have a better standard by which to judge. In the *British Medical Journal*, January 16, is an abstract of a paper read at the meeting of the British Institute of Actuaries on the comparative mortality of abstainers and non-abstainers, based on the experience of the United Kingdom Temperance and General Provident Institution during the last sixty years. This insurance company takes both classes with the same premiums, but keeps separate records. The mortality experience of each grade separately is ascertained carefully, the former receiving no advantage arising from their superior vitality except in the form of additional bonus. The special feature of the case, as the *British Medical Journal* shows editorially, is that the abstainers show an advantage which is from 25 to 45 per cent. superior to that of the non-abstainers between the years of 25 and 65, that is, in the active and valuable years of life. The comparability of the two sections is thoroughly discussed. The average amount of insurance in each class is about the same. There has been no special selection of lives in the abstainers' class, and there is no question in case of their taking liquor under the prescription of a physician. The pecuniary conditions and methods of living other than as the drinking habits are alike. The members of the two classes are dealt with on absolutely equal terms, and the superiority of the life experience of the abstainers has not been obtained, as shown by careful statistics, by any preferences between the two classes. Our British contemporary, which, so far as we know, is not prejudiced in favor of total abstinence, says that the study of statistics fails to reveal any other cause for the condition than the abstinence from alcoholic drinks, and that, in the light of this experience, abstinence must be considered as an important factor in securing health and long

life. Such facts are far more significant and important in establishing what is the dietetic value of alcohol as commonly used, than is any amount of laboratory experimentation. They, moreover, agree with other experience from a medical and economic point of view. Therefore, total abstinence from alcohol seems to be decidedly the best policy for anyone who wishes to live long and to avoid any unnecessary risk to health and life.

Medical News.

ILLINOIS.

Scarlatina Closes College.—Concordia College, Springfield, was closed by the faculty, February 13, on account of an outbreak of scarlet fever. The students have returned to their homes.

Donations to Hospital.—William B. McKinley and Mrs. Newton M. Harris of Champaign have each given $10,000 to the endowment fund of the Julia F. Burnham Hospital in that city. The hospital's endowment now amounts to $31,721.50.

Iroquois Memorial Ward.—Members of St. Francis' guild will commemorate the deaths of associate members in the Iroquois Theater fire in Chicago, by endowing a ward in St. Francis' Hospital, Evanston, for the exclusive use of indigent patients.

Little Typhoid at Canton.—Dr. James A. Egan, secretary of the State Board of Health, has received reports from Dr. W. E. Schallenberger, health officer of Canton, that only 4 cases of typhoid fever now exist in that city, and that all infected houses are being thoroughly disinfected.

Examination for Naval Reserve Surgeons.—An examination will be held at Rush Medical College, February 27, of candidates for commissions in the medical department of the Illinois National Guard, for assignment to the Naval Reserve. The surgeon-general, Col. N. Senn, will preside, and he has designated as the examining board, Lieutenant-Colonel G. Paull Marquis, Major Charles Adams, and Captain S. C. Stanton.

Chicago.

Increase in Diphtheria.—The health department reports an increase of nearly 20 per cent. in the number of diphtheria cases reported during the week over the number reported the previous week.

Personal.—Dr. Robert B. Preble, president, and Dr. Frank X. Walls, secretary of the Chicago Medical Society, left Chicago, February 11, for a two weeks' vacation in Cuba. In their absence, the affairs of the society will be administered by Drs. William A. Evans and W. S. Harpole.

Mortality of the Week.—During the week ended February 13, 661 deaths occurred, 65 more than in the preceding week, and 27 more than for the corresponding week of 1903. The respective annual death rates are 17.68, 15.92, and 17.56 per 1,000. Pneumonia still holds a long lead with 175 deaths, the next on the list being consumption, with 71.

Comparative Diphtheria Mortality.—Between Oct. 5, 1895, the date of first case treated, and Dec. 31, 1903, the antitoxin administrators of the health department have treated 7,435 cases of bacterially verified diphtheria, of which number 479 died—a mortality rate of 6.44 per cent. The average mortality without antitoxin still remains at about 35 per cent.

Pertussis and Measles Not Fatal.—For the fifth consecutive week, says the bulletin of the health department, there has been no death reported from measles and none from whooping cough in six weeks. There was one death from each disease in January and none thus far this month. During the corresponding period last year there were 32 deaths from measles and 46 from whooping cough.

Loving Cup Given Dr. Quine.—At the annual reception given by the senior class of the medical department of the University of Illinois, February 9, in honor of Dean Dr. William E. Quine, which marked his fifty-seventh birthday anniversary, his thirty-fourth anniversary as a medical teacher, and his twenty-first anniversary as a member of the faculty of the College of Physicians and Surgeons, the class presented him with a silver loving cup.

MARYLAND.

Baltimore.

Personal.—Dr. Harry C. Johnson, resident physician at Franklin Square Hospital, has resigned and will practice in Lucketts, Va. His resignation promotes Dr. Oscar H. McNemar to be resident physician and Dr. J. C. Hodges to be assistant. ——Dr. J. S. Bowen has returned from Europe.

The Baltimore Fire.—The medical schools and hospitals, being out of the line of the fire, escaped destruction, except the Maternity of the College of Physicians and Surgeons on West Lombard Street, which was totally destroyed. All the patients were rescued. The flames threatened the destruction of the College of Physicians and Surgeons and the City Hospital on North Calvert Street, but a sudden change of wind saved them. Before that, however, all the patients had been removed from the City Hospital to the Johns Hopkins, the University and Maryland General hospitals. The Johns Hopkins University and Hospital were heavy losers. The former had just about put its affairs into shape and had prepared the way for removal to its new site in the northern suburbs. It had a great deal of its funds invested in real estate in the burned district, including seven large buildings and warehouses. Of these five were burned to the ground, and it is not known exactly how fully insured the property was, but it will curtail considerably the income of the institution. One of the most serious losses, however, sustained by any institution was that of the Johns Hopkins Hospital. It is estimated that property belonging to it aggregating $1,300,000 was destroyed, and the loss of the annual rental therefrom will curtail the income at least one-third. This loss will continue until the property can be rebuilt and the rents resumed. As the hospital has been living up to the last cent of its income, the blow is a staggering one, and already there is talk of an appeal being made to the outside world for aid. Baltimore can do nothing at present. The office of the *Maryland Medical Journal* escaped, but its printing office was entirely destroyed with the tuberculosis issue (the February number), just in type. The number will be reprinted in Philadelphia, but it will be impossible to reproduce it entire. The office and fixtures of the State Board of Health, on South Street, were destroyed, with the greater part of the valuable library of the secretary, Dr. John S. Fulton, and the annual report of the board, which was in press. The records of the board were saved. The board has taken offices on North Avenue and Charles Street in the northern part of the city. One of the most singular facts connected with the fire was the absence of fatalities, there being but one death reported, that of a fireman from York, Pa., who was crushed under a falling wall. There were many injured, chiefly firemen, none fatally and few seriously. The fact that the fire occurred on Sunday only accounts partially for these results. Had it been a week day the rapidity with which it spread would have cost many lives. Several physicians lost valuable property in the burned district, which extended on either side of Baltimore Street from Liberty east to Jones' Falls, a distance of 11 squares and then southeast to the harbor. All that part of the city east of Light and South of Baltimore to the waters edge was burned. The fire extended beyond those areas here and there.

MASSACHUSETTS.

A Thousand a Day.—In the first twelve days after the appeal for $50,000 was issued by the Springfield Hospital Corporation, more than $12,000 was subscribed.

Paroled.—Dr. Eugene Graves of East Boston, convicted of abortion and sentenced as a habitual criminal in 1892, has been released from the state penitentiary on parole.

Unlawful Practice.—T. J. Early, who posed as a physician in Lowell, and prescribed, has been tried, found guilty of unlawful practice and fined $200.——Ulric St. Pierre, of New Bedford, charged with practicing medicine without being lawfully authorized, was fined $100 and sentenced to imprisonment for three months.

A Political Criticism Only.—Drs. McGirr, physician to the diphtheria hospital, and Sennott, city bacteriologist, both of whom were so severely criticised in the recent city election in Cambridge, Mass., have been reappointed without opposition, although their critics were entirely successful at the polls. The criticism is said to have been for political effect.

Report on Antitoxin.—Dr. Samuel W. Abbot of the State Board of Health has summarized the work of the board in the production of diphtheria antitoxin as follows: During the last four years 160,072 bottles of antitoxin have been produced and distributed free at a cost of $31,843, an average of 19.8 cents per bottle. At retail prices this quantity would have cost the consumers $437,366. In 1900, when there were the greatest number of cases in the state, the average cost was only 13.6 cents per bottle.

Departments Condensed.—The bacteriologic and milk and vinegar departments of the Boston Board of Health, which are under the charge of Dr. Hilbert W. Hill and Dr. Charles Harrington, respectively, are to be brought together under one building. The change is made not to save money, for they do not duplicate each other's work, but for the convenience of the citizens. Forty culture stations report daily to the bacteriologist, while the other department analyzes each day samples of milk, vinegar and other foods.

Personal.—Dr. Walter J. Steeper, Westford, has been appointed medical examiner, vice Dr. Benjamin H. Hartwell, Ayer, deceased.——Dr. Marshall Calkins, after 38 years of service, has resigned from the medical staff of the Home for the Friendless, Springfield. Dr. Frederick B. Sweet is his successor.——Dr. Samuel Patenaude, Lowell, has been made professor of materia medica in the College of Physicians and Surgeons, Boston. Dr. Edward W. Brown has been elected city physician of Northampton, vice Dr. John S. Hitchcock, retired.

NEW YORK.

New Health Officers.—Dr. Thomas H. Hallet has been made health officer of Clyde.——Dr. John H. Doughty has been appointed health officer of Fishkill.

Osteopaths Try Again.—Another effort is to be made by the osteopaths of the state to have a bill passed by the legislature which will legally recognize them. Two years ago a similar effort was made and failed.

Smallpox.—The epidemic of smallpox which has existed at Salamanca is now under control and quarantine will be raised. ——The condition of smallpox at Lockport is improving.——A number of new cases have been reported at Buffalo.

Typhoid at Watertown.—A typhoid fever epidemic is raging at Watertown. At the outset the disease was of a mild form, but has now assumed a more serious type. There are 400 cases in the city. The local authorities have been unable to trace the source of the disease, and the state health department will make an investigation. The city authorities have leased a large house which will be turned into a hospital. A filtration plant is being installed, but will not be ready before next fall. Filters have been ordered for all the schools.

Deaths of 1903.—Commissioner Lewis has made a tabulation of vital statistics for 1903, which shows that the total number of deaths reported for the year was 127,100, which makes a mortality per 1,000 of 16.7. While the total mortality is about 2,000 greater than that of the previous year the estimated increase in population makes the death rate lower. Smallpox caused 41 deaths, all but 16 occurring in and about Rochester. There were 1,250 deaths from pneumonia, and 7,960 from Bright's disease. Grip is estimated to have caused 8,000 deaths.

Buffalo.

Odd Fellows' Hospital.—The new hospital donated by the Buffalo Odd Fellows and Rebekah lodges was dedicated at the State Odd Fellows' Home at Lockport.

Medical Staff Elected.—The medical staff of the Sisters of Charity Hospital elected officers as follows: President, Dr. James J. Mooney; vice-president, Dr. Charles S. Jewett, and secretary, Dr. Alfred E. Diehl.

Personals.—Drs. John Parmenter, D. W. Harrington and A. K. McCarthy have returned from the south.——Dr. Stephen Y. Howell has returned from Central America.——Dr. Henry D. Ingraham is recovering from an attack of pneumonia.——Dr. E. A. Southall, who was in the medical department of the Army, has returned to Buffalo after five years in the Philippines.

General Hospital Report.—President Clement, of the board of trustees of the Buffalo General Hospital has issued the annual report showing that during the past year contributions amounting to $185,242.50 have been received. The hospital has been in existence for 45 years, and has had many eminent men on its staff. Despite the many improvements which have been made the hospital is practically without debts. A new nurses' home is being constructed which will furnish accommodation for 66 nurses in individual rooms, and will have an assembly room, gymnasium, library, reception and lecture rooms.

New York City.

Much Pneumonia, Influenza and Measles.—Since December 19 there have been 2,284 deaths from pneumonia in New York, and there are now more cases of serious influenza and measles reported there than at any time since 1891.

Problems of Municipal Administration.—Columbia University, in co-operation with the Academy of Political Science, has arranged for a series of nine free lectures on this subject, to begin February 26, and to be continued weekly. On April 15 former Health Commissioner Ernst Lederle will give an illustrated lecture on "The Health Department," and a week later John W. Brannan will talk on "Bellevue and Allied Hospitals."

Large Deficits in Hospital Funds.—A crisis has been reached in this city in the affairs of its great hospitals, and heavy deficits are said to be facing the majority of the big institutions. Some of them, it is declared, must inevitably succumb under their burdens of debt and close their doors. It is estimated that an endowment of $20,000,000 would be necessary to meet the combined deficits of New York's hospitals. This is due to the fact that many of the hospitals have been erected at far too great an expense, and resemble palaces and hotels rather than hospitals. The board of directors of the Eye and Ear Infirmary are considering the advisability and necessity of closing that institution. At the annual meeting of the board of managers of St. Luke's Hospital, held in October, they reported that the expenditures showed an excess over receipts of $32,161. The Lying-in Hospital faces a deficit of $88,477, and the Mount Sinai Hospital a deficit of probably $58,000. In 1902 the Presbyterian Hospital announced a deficit of $60,229. The Hospital for Ruptured and Crippled, $55,675, and the Post-Graduate Hospital in the same year showed an accumulated indebtedness of $44,103. Other hospitals showing deficits are Roosevelt Hospital, $6,208; J. Hood Wright Hospital, $624; Flower Hospital, $8,224; New York Infirmary for Women and Children, $6,678; German Hospital, $9,841, and the Orthopedic Hospital, $5,391.

PENNSYLVANIA.

Personal.—Dr. John A. Morrison, who has practiced in Cochranville for sixty-seven years, celebrated his ninetieth birthday anniversary January 31.

End of Butler Epidemic.—The one-hundred and tenth death from typhoid fever at Butler occurred February 2. The State Board of Health has completed its investigations and the quarantine officer has returned to Pittsburg.

Society Asks Incorporation.—The application of the Berks County Medical Society for incorporation has been presented to court. The incorporators are Drs. Charles W. Bachman, Abraham S. Raudenbush, and John Y. Hoffman of Reading; Dr. Allison A. Stamm, Mohn's Store, and Dr. George Hetrich, Birdsboro.

Philadelphia.

Physicians Exonerated.—Three physicians charged with failure to report cases of contagious disease had a hearing before the board of health, February 4, and were exonerated.

Dinner and Reception to Physicians.—Dr. Charles P. Noble gave a reception, February 4, to Drs. Thomas E. Cullen and Guy L. Hunner of Baltimore, at which there was an attendance of about 250. Prior to the reception, Dr. Noble entertained these gentlemen and six other guests at dinner.

Deaths for the Week.—Deaths from all causes for the week ended February 13 were 568, a decrease of 55 from the previous week. Of the new cases of contagious diseases there were of diphtheria, 58; scarlet fever, 104; smallpox, 58; typhoid fever, 103, a total of 23 more than for the previous week.

Eddyite Child Dies.—Although his wife begged him to call a physician for their infant child, ill with pneumonia, William Lake, an Eddyite, refused. The child died, and the father has been arrested, and two other Eddyites who were particeps criminis have been cited to appear before the coroner.

Hospitals Allowed Bequests.—In the recent adjudication of the estate of Henry C. Cochran a large sum was allowed as bequests to institutions. Following are some of the beneficiaries: Pennsylvania Hospital, $10,000; Presbyterian Hospital, and the University of Pennsylvania, $5,000 each; Gynaecean Hospital, Polyclinic Hospital, Medico-Chirurgical Hospital, Home for Incurables and Sanitarium Association, $1,000 each; Northern Dispensary and Philadelphia Dispensary, $500 each.

Lectures to Undergraduates.—Dr. Frederick Holme Wiggin, New York City, at the invitation of the Montgomery Gynecological Society of Jefferson Medical College, delivered an address on "Some Practical Points in Abdominal Surgery, with Special Reference to a Simple Technic for Appendicectomy and Intestinal Anastomosis," before the student body of that institution on the occasion of the annual meeting of the society February 2. Later in the evening he was entertained at a dinner given at the Colonnade Hotel.

Public Education in Hygiene.—A campaign of public education on hygiene and especially on contagious diseases is being waged in Philadelphia. Dr. Alexander C. Abbott, president of the board of health, recently lectured in the Central High School to an audience of laymen on "The Prevention of Contagious Diseases." "Tuberculosis, Its Prevention and Cure" was the subject of a recent lecture, under the auspices of the Franklin Institute, by Dr. M. P. Ravenel, Bacteriologist of the State Live Stock Sanitary Board and Assistant Director of the Henry Phipps Institute. The Department of Public Health is to appeal to the legislature and to private charity to aid in conquering the great white plague. The registration of all consumptives is planned, and also the establishment of state camps at various points. The Pennsylvania Society for the Prevention of Tuberculosis will contend for the cleaning of the streets only between midnight and the early morning; the thorough wetting of the streets before cleaning, the heating of trolley cars in cold weather, the discarding of upholstered seats in street cars, and the enforcement of the anti-spitting ordinance. One of the lectures in the international course on tuberculosis, under the auspices of the Henry Phipps Institute, was delivered in Witherspoon Hall, February 15, by Dr. Herman M. Biggs, chief of the Department of Health, New York, on "Administrative Control of Tuberculosis."

Inspectors Examined and Appointed.—As a result of civil service examinations recently conducted for the city by Drs. John H. Musser, J. Chalmers Da Costa and Joseph McFarland, the board of civil service examiners for the health bureau, the following, out of some 200 applicants, were appointed as assistant medical inspectors, making the corps fifty in number: Drs. Maurice Ostheimer, Solomon W. Newmayer, Edmund L. Graf, Walter F. Brown, Harold B. Wood, Ignatius L. J. Fitzpatrick, Myer Solis-Cohen, Barnard Kohn, Walter B. Cornell, John Hedges, Joseph P. Ball, D. Cameron Bradley, Alva M. Stafford, W. Edson Apple, George M. Ferguson, Charles E. Ruffell, William P. Hearn, Joseph D. Leman, Charles C. W. Bartine, George J. Enders, Arthur Hartley, Walter W. Maires, Francois L. Hughes, Frederick W. Smith, James M. Hincken, Isaac V. Levi, George M. Coates, Michael O'Hara, Jr., Truman Auge, Sylvester J. Deehan, Morris J. Tyndall, W. Cookman Marshall, Andrew J. Maher, Henry G. Bruner, Louis N. Mutschler, Walter V. Wood, Victor Loeb, Ralph H. Spangler, Henry O. Everett, and Henry H. Doan. The corps was increased by councils from 13 to 50 members. Three of the former, Drs. Taylor, Cairns and Beatty were advanced to the positions, respectively, of chief vaccine physician, chief medical inspector, and assistant chief medical inspector. The salary of an assistant inspector is $1,200 a year.

WISCONSIN.

New Hospital.—Dr. Frank H. Turner has constructed and equipped a hospital at Clam Falls, at a cost of about $7,000.

Milwaukee Hospital.—Nearly 1,000 patients were treated in the Milwaukee Hospital during 1903. At least one-third of these were indigent patients. The income of the institution exceeded the expenditure by $160.55.

Not Yet Transferred.—Information has been received that the notice in THE JOURNAL of February 6, that the headquarters of the State Board of Health had been moved to Madison, was premature. The transfer will not be made until April 1.

Milwaukee Personals.—Dr. George Koeppel, Jr., has resigned as house surgeon of Emergency Hospital, and sailed for Europe, February 11.——Dr. Albert G. Jenner, has been appointed medical referee for Wisconsin of the Mutual Life Insurance Company of New York.

GENERAL.

The Daily Medical.—The first issue of the *Daily Medical* is before us. It contains medical news written up in newspaper style, with some pertinent editorials, all making a good representation for the field it was announced to cover.

Queen's Hospital to Build.—A brick addition, to cost $45,000, is authorized by the trustees of Queen's Hospital, Honolulu. The annual report shows that in 1903, 783 patients were treated, 44 died (5.14 per cent.), and 673 discharged. More patients were treated free than for pay. The institution received from pay patients $14,798, or $28,000 less than the current expenses. The withdrawal of the government subsidy may require a marked reduction in the amount of charity work.

Sanitarians to Tour Mexico.—Drs. George R. Tabor, state health officer of Texas; John H. Purnell of the Mississippi State Board of Health; C. P. Wertenbaker of the United States Public Health and Marine-Hospital Service, New Orleans; W. H. Sanders, state health officer of Alabama; Edward Souchon, president of the Louisiana Board of Health, and Arthur Nolte and W. G. Owen of the same board, and Dr. J. M. McKnight, local state health officer at Laredo, Texas, have been holding a conference in Mexico City with members of the Superior Board of Health of Mexico to devise means for preventing another yellow fever epidemic. They are also visiting Tampico, Linares, Victoria, Monterey, Vera Cruz and other cities along the coast of the Gulf of Mexico. After a thorough inspection of these cities, where yellow fever often originates, the commission hopes to formulate plans for a campaign of education and sanitation.

CANADA.

Report of Hotel Dieu Hospital, Montreal.—During 1903 male patients admitted numbered 1,226; cured, 688; relieved, 506; incurable, 17; died, 117; females, 1,234; cured, 626; relieved, 493; incurable, 20; died, 95.

Physicians and the New Ontario Assessment Act.—The profession dislikes the proposal of the Ontario government to abolish the income tax and substitute a "business tax" irrespective of ordinary assessment, at the rate of 50 per cent. on the assessed value of property in which the physician resides. The change is considered too discriminating, and at a mass meeting of the profession at Toronto it was decided to protest. Such a tax, it is said, would make many practitioners pay ten times the amount they now pay in taxes.

Consumption of Spirits, Wine and Beer in Canada.—According to the last annual report of the inland revenue department at Ottawa, there were taken for consumption in Canada during the year ending June 30, 1903, 3,208,767 gallons of spirits and 25,755,154 gallons of malt liquor. The former is a slight increase over the previous year, but the latter is a decrease of 1,868,613 gallons. The annual consumption per head of spirits, wine and beer in Canada during 1902 was: Spirit gallons, .796; wine gallons, .090; beer gallons, 5.102; and in 1903, .870, .096 and 4.712. This shows a slight increase in the consumption of wine and spirits and a decrease in the consumption of beer.

FOREIGN.

The Sixth International Congress of Zoology.—This will be held at Berne, Switzerland, Aug. 14-19, 1904.

Eddyite Spreads Smallpox.—Nine cases of smallpox were discovered in Edinburgh, the result of an Eddyite's going about among people while sick with the disease.

New Journal for Anatomy and Microtechnic.—Prof. R. Krause and Dr. M. Mosse of Berlin announce the foundation of a new *Centralblatt f. normale und pathologische Anatomie mit Einschluss der Mikrotechnik.*

Russian Congresses of Surgery and Gynecology.—The fourth annual congress of Russian surgeons was held at St. Petersburg, December 28. About 200 surgeons were in attendance. The next congress will be held at Moscow in December. The congress of gynecology was held at the same date.

Epidemic of Ergotism.—The Siberian district of Tomsk is suffering from an epidemic of ergot poisoning. The rainy weather of the last harvest season favored the growth of ergot in the grain, and in tests of 92 samples of flour only 19 were found free from appreciable amounts of ergot. Already 123 cases and 14 deaths have been reported.

Prize for Work on Fatigue in Military Service.—The Italian government offers a prize of $200 for the best article on the subject of "Fatigue in Military Life; the resistance of the organism and its factors; over-exertion and its consequences; the weight carried by the Italian soldier and measures to render it lighter and distribute it better without abandoning any essentials."

Foreign Students at German Universities.—The number of matriculated foreign students at the German universities is larger this year than ever before, amounting to 3,093, of whom 722 are in the medical schools. The proportion by nationalities of the medical students is not given in the report, but 319 Americans are included in the total number, and 133 from Asia, mostly Japanese.

Meeting of Inner Council of International Antituberculosis League.—The inner council has been summoned to meet at Copenhagen, May 27 and 28, to prepare for the international antituberculosis congress to be held at Paris in September, 1905. Among the subjects to be discussed are the reports of committees on the question of languages (Maragliano, chairman); antispitting ordinances (Hillier); compulsory notification

(Fränkel); disposition (Schrötter), and education (Heron). The appointment of corresponding members will also be discussed, and the aims and scope of the international "Centralbureau" be more accurately defined.

Director of Laboratory Dies from Plague.—The laboratory for plague research at St. Petersburg is located on an isolated island near Fort Alexander. The director of the Institute for Experimental Medicine and the Production of Antiplague Serum was engaged at the laboratory with living plague cultures when he contracted the plague, January 26, and died in four days, notwithstanding repeated injections of antiplague serum. All the other persons connected with the laboratory were given preventive injections, but two new cases have developed. The entire establishment is strictly quarantined. The death of the director recalls those of Dr. Müller at Vienna and Dr. Sachs at Berlin, under similar circumstances.

Inadequate Quarters for Science at Paris.—Our Paris exchanges state that the new professorship which has been conferred on Curie has no laboratory connected with the chair, and the scientist and his wife had no place in which to continue their researches on radium. The Pasteur Institute has come to the rescue and Professor and Mme. Curie are now comfortably installed in a laboratory there. Prof. A. Robin has also recently been transferred from the Pitié to the Beaujon hospital. The latter has only one amphitheater, already occupied by Debove. Robin's lectures are, therefore, delivered in the sacristy to the little chapel, where his auditors find only two or three dozen chairs to seat the hundred or more present.

International Institute of Bibliography.—This unique institution was founded by Marcel Baudouin at Paris a few years ago. It is a collection of books, articles, bibliographies, illustrations, etc., kept on the plan of a card catalogue, and the collection on any subject or branch of a subject is loaned on demand to applicants. Abstracts or translations are furnished and all commissions to facilitate scientific research are executed by experts connected with the institute. The cards are loaned to any part of the world and the scientist remote from the centers of learning is thus able to have at his command what has been published on any subject in which he may be interested. The institute is to have an exhibit at St. Louis, and a branch office has just been opened at Madrid. The *Gazette Méd. de Paris* is the official organ of the institute, and the *Bibliographia Medica*, a successor to the *Index Medicus*, was published by Baudouin during 1900-1902.

International Station on Mount Rosa for Physiologic Research.—The international station in Switzerland, at an altitude of nearly 17,000 feet, was first visited by the Italians, Professors Mosso and Galeotti, C. Foa, A. Aggazzatti and G. Marro, with Professor Atwater from Middletown in this country. During a two weeks stay in 1902 various lines of physiologic research were industriously prosecuted. Last year Professor Zunts of Berlin and Durig of Vienna with Mosso of Turin spent thirty days at the station. The report of the various tests and experiments is soon to be published with the title, "*Annali del laboratorio internazionale di fisiologia sul Monte Rosa.*" The station was a gift to science from the dowager queen of Italy, in 1901. Mosso regards as the most important result of the researches to date his observations on what he calls "acapnia," that is, the lessened proportion of carbonic acid in the blood at high altitudes.

Prevention of Lay Publicity for Scientific Articles.—Dr. H. Keller writes to the *Wiener klinische Rundschau* deprecating the publicity given in the lay press to Behring's new views. Such communications should be made before scientific bodies and the discussion kept from publicity until the matter has been fully weighed and the revolutionary statements made either established as truths or refuted. Behring's statements have been widely heralded all over Germany and the public informed that he regards the boiling of milk as distinctly injurious to infants. The impression made by his words on the public tends to throw discredit on the profession which has so persistently been advocating the boiling of milk. Keller merely cites this Behring episode as a typical example of what he thinks the profession should avoid. He urges that physicians should combine to avoid publicity for purely theoretical propositions, and prevent their publication in the political press. The editions of medical papers and articles should be copyrighted and each bear a notice to the effect that legal proceedings will be instituted against any one reproducing the articles without permission. He thinks this would effectually prevent the premature promulgation of views which conflict with all that has been learned by experience to date.

The Sewage Farms at Paris and Their Influence on Health.—The report for 1903 of the committee appointed by the Paris authorities to investigate this subject has just been published. The conclusions are to the effect that this method of purification of the sewage water by using it to fertilize the soil is surprisingly effectual. The water draining away from the sewage farms provides the drinking water for the communities nearby, and the vegetables grown are likewise consumed there in large amounts. Gennevilliers has about 2,400 acres of these sewage fields, with 138 acres cultivated as vegetable farms. With a population of 10,056 there were 202 deaths in 1902, not one of which was due to typhoid fever, diphtheria or intermittent fevers, and in the 18 deaths due to dysentery, 15 were of young infants and the others in children. The same is true of a town beyond, whose 2,243 inhabitants likewise drink the water draining away from the farms. Not a single case of infectious disease has occurred in either place which can possibly be ascribed to the use of the filtered sewage water. Paris has now 5,505 hectares, or about 13,700 acres of these sewage fields, and each acre receives about 180,000 cubic feet of water during the year. The sewage is first collected in large basins and the solid matters are filtered out and carried away by wagon or boatload, the water passing on to the sewage farms. Every year adds to the number of acres devoted to the purpose.

United Action of the Profession in Germany.—The troubles with the semi-official sickness insurance societies have solidified the profession in Germany to a remarkable extent since the introduction of the new law doubling the length of treatment of the policy holders. In Berlin a general meeting was held recently, with Prof. von Bergmann in the chair, which was attended by 1,500 physicians. It was summoned to protest against a certain measure required by the insurance societies. The protest was heeded by the societies and the obnoxious clause dropped. In Cologne all the medical officers of the principal society resigned, and the society was able to find only 30 physicians from outside willing to enter its service under the conditions prevailing. The government interfered and notified the local authorities that this number was inadequate for the 110,000 policy holders, and that at least 30 more fully qualified for the post must be engaged within three days. The local authorities, therefore, ordered the society to reinstate its former medical officers, conceding all their demands, "free choice," arbitration committee and the fee of 5 marks per capita and 15 marks per family, with agreement to the contract for a five-year term. The outside physicians were discharged with some compensation. Our exchanges hail this settlement of the trouble at Cologne as a great victory, rendered possible only by the united stand taken by the profession. In the ads published in the medical press warning against acceptance by outsiders of the posts left vacant by the resignations of the medical officers of the various "Kassen," it is stated that any one accepting such a post would be debarred thereafter from intercourse as a colleague with other members of the profession. In a very few places outsiders have come in and thus "stabbed the local physicians in the back" as our exchanges express it, but they are referred to as the "sweepings" of the medical profession. The resigning physicians are given financial aid by the *Leipziger Verband*, which now numbers many thousand members. Its aim is solely to promote the material welfare of members of the profession. There is a rumor to the effect that a reserve fund of $500,000 is being raised.

DUBLIN LETTER.

Midwives and Rotunda Hospital Nurses.

There is perhaps no hospital in the world whose name is so well known in every corner of Europe and America as the Rotunda Hospital, Dublin. Founded in the first half of the eighteenth century, it is the oldest lying-in hospital in the British islands, and is still by far the largest. It is very likely not so well equipped as many midwifery hospitals in America, and perhaps on the continent of Europe, but, so far as the home countries are concerned, it is admittedly in importance the premier hospital of its kind. In the face of all this it is hard to believe that nurses trained in the Rotunda and the other lying-in hospitals in Dublin are absolutely excluded from all practice in England by the new midwives' act. For many years medical men and others interested in health matters strongly urged the necessity of placing midwifery practice under proper regulation and control, as there was no check whatever on practice by very ignorant persons, and there was no register of midwives. As a result of this agitation in 1902 a bill was carried through parliament to provide for the proper control of midwifery practice. In this connec-

tion I may be pardoned for repeating an anecdote of Lord Salisbury's latest weeks in the house of lords. His habit of sleeping through all but the most important debates in the house was notorious, and he was known to nod even while the leader of the liberal party in the peers was on his feet. Shortly after his retirement he explained to a friend that he had latterly found the house intolerable, for whenever he wakened from a doze, he seemed to hear the Lord Chancelor talking about midwives. To return, however. The execution of the act was to be in the hands of a body known as the Central Midwives' Board, who, with the approval of the privy council, were to make regulations regarding the registration and discipline of midwives. This body, with all the importance of jack-in-office, immediately busied themselves in drawing up a code of rules of more than doubtful utility. Some of them certainly were excellent, but many of them were silly or unscientific, and have come in for much adverse criticism. It was not, however, until they came to draw up regulations guarding admission to the register that Irish nurses were particularly affected. There is to be a state examination passed before a midwife is permitted to practice, and candidates for such examination must show certain certificates. Among these are certificates stating that the nurse has personally conducted twenty cases of labor, and has attended for ten days after confinement in each case. Now a Rotunda nurse could truthfully claim that she had watched three or four hundred conductions, assisted at twenty or thirty, and personally conducted three or four; that she had watched six or eight hundred women during their puerperium, and personally nursed twenty or thirty, but she could not make the statements demanded by the board, for the usual period of detention of patients in lying-in hospitals in Dublin is eight days, and they would refuse to stay longer, nor would it be in their interests to do so. And with regard to allocating twenty conductions to each nurse, it would require, to quote Dr. Kidd, not merely doubling the size of our hospitals, but doubling our birth rate. Under the present conditions, while the "handy woman" of the English village is eligible to present herself for registration, the best-trained midwives in the kingdom are absolutely excluded. It is true that Irish obstetricians are themselves somewhat to blame, for, with the single exception of Dr. W. Smyly, not one of them raised his voice in protest until the objectionable rules were in force. The laxity of the Rotunda authorities in the matter is particularly blameworthy. At the opening meeting of the obstetrical section of the Royal Academy of Medicine in Ireland a few weeks ago the president brought the subject before the section, and very strong resolutions were passed demanding the repeal of the offending clauses.

The Educational Situation in Ireland.

Before this letter is in print it will be known whether the government has any intention of introducing in the present session of parliament, a university bill for Ireland. That the existing position of affairs in regard to higher education in this country can not be much longer tolerated is obvious, for, whether the grounds of discontent are really sufficient or not, there is no doubt of the discontent being there, and outside Trinity College there is at the present moment no stable educational institution. A short history of university education in Ireland is necessary to make clear how we stand. Three hundred years ago a college was founded in Dublin, by name Trinity College, "to be the mother of a university." From that day to this, no other college has been established in Dublin University, and Dublin University and Trinity College are to all intents and purposes the same institution. For some two hundred years after its establishment, Roman Catholics were excluded from obtaining degrees in the university, but toward the end of the eighteenth century this disability was abolished, all posts of honor and emolument, however, being still preserved to members of the Established Church. It was not till 1873 that the last relic of official sectarianism was done away with by Fawcett's Act, and every prize and post from sizarship to provostship was thrown free to all comers, without any religious test. At the same time, however, no attempt was made to interfere with the conduct of the Church of Ireland Chapel, which still stands within the walls, nor was the Divinity School of the Church of Ireland disturbed. It was hoped that all religious tests having disappeared, Irishmen of every class would make full use of the university privileges thrown open to them, but this hope has been gravely disappointed. The number of Roman Catholic students entering the college has scarcely shown any increase, and of late years even tends to diminish. Three-fourths of the people of Ireland, but only one-tenth of the students of Trinity College, are Roman Catholics. Previous to Fawcett's Act, indeed, attempts had been made to provide university education for those who preferred not to make use of Trinity. In 1849 the Queen's University was set up by Sir Robert Peel, with three constituent colleges placed respectively in Cork, Belfast and Galway; the colleges were entirely undenominational, and provided no religious training. The Roman Catholic bishops at first favored the scheme, but soon came to regard it more coldly, and finally for some occult reason condemned the colleges, root and branch, as "godless." Nevertheless, in spite of many obstacles the Queen's University existed for some thirty years, doing very good work among those whose consciences permitted them to make use of it. In 1879, however, it was abolished, and the "Royal University" was established in its stead. This is a mere examining board, sitting in Dublin, and examining any candidate who presents himself. It matters not where he has been trained; he has, if he shows sufficient knowledge, a right to a university degree. The queen's colleges, which still exist, although the Queen's University was abolished, prepare many students for the Royal University, but many others are trained in various voluntary institutions. It is hardly to be wondered at that after twenty-five years' experience of this body, it has been shown to be an entire failure, as far as any true education is concerned, and this is the official judgment of a royal commission which has recently inquired into the matter. The position at present then is this—Trinity College or Dublin University, while open to every one, is refused by the bulk of the Roman Catholics of Ireland; the Royal University, an examining board, has been found useless; the Queen's Colleges, like Trinity College, are not made use of by Roman Catholics. Whether the position of the Roman Catholics in declining to avail themselves of Trinity College and the queen's colleges be logically justifiable or not, there is no question as regards practical politics that something must be done to satisfy their claim, and the only question is, what form should the solution of the difficulty take? I hope in a future letter to tell something of the schemes which are most prominently before the public at present.

LONDON LETTER.

The Disposal of Wounded Cavalry.

The need for some special form of light ambulance for mounted troops has for some time been recognized. In the *Journal of the United Service Institution* of India Lieut.-Col. Hathaway, medical officer with the cavalry divisional staff in the South African War, has published an important paper on the subject. Assuming that cavalry can not be allowed to look after their wounded, he suggests a scheme of mobile cart detachments. The detachment of each cart is to consist of five men, well instructed in first aid to the wounded. During peace a single cart and detachment should form the ambulance establishment of a regiment of cavalry; in war one cart would be required for every squadron. The cart should provide accommodation for as many wounded as possible, be light and yet strong, and able when empty to cross any country over which artillery can proceed. The cart considered by Colonel Hathaway most generally serviceable consists of a platform on strong springs over four wheels; the sides are padded and moveable so as to form back rests when the cart is used for sitting-up cases. The patients then sit on benches on each side of the cart, the stretchers being rolled up and placed under the seats. By an arrangement of hinged crossbars, which form a second or upper tier, the cart can be made to accommodate four patients lying down. There is also room for two patients who can sit up, in front. Thus in all six patients can be accommodated, and when the lower stretcher rests are used as seats, 10 patients. A double awning-cover supported on uprights from the center of the platform, allows stretchers to be loaded from each side without any obstruction from the sides. Thus any case can be attended to without removing the patient, a great advantage. The cart weighs less than nine hundredweight and appears to combine economy of space with comfort. Colonel Hathaway claims that, at little or no extra expense, these cars render mounted corps much more mobile in that they are relieved of attention to their wounded, who are removed rapidly by an organized body of men able on the march to maintain the pace set by the mounted unit. For men wounded on patrols where wheeled transport, however mobile, is impossible, he has invented a contrivance called a "saddle crutch" consisting of a semicircle of light metal padded inside and covered with leather which is used to support a wounded man after he is placed in his saddle.

The Contamination of Shellfish by Sewage.

The Royal Commission on Sewage Disposal has issued another interim report containing a most important statement. During the various "oyster scares" it has been assumed that the presence of the *Bacillus coli* in the oyster is proof of sewage contamination. The commission have discredited this test. They ordered Dr. Houston to examine a large number of oysters from the purest beds, waters and from beds liable to pollution, in order to ascertain the distribution of the *Bacillus coli* in nature. Over 1,000 oysters were examined, with the result that the organism was found in nearly all, but as a rule much fewer bacilli were found in oysters taken from pure than from polluted water. The commission hopes that eventually it may be possible to establish a quantitative test. The importance of this pronouncement is obvious. The chief sanitary inspector of the City of London recently obtained an order for the destruction of oysters because they contained the *Bacillus coli*. The layings from which they came were consequently withdrawn from the market. But during the hearing of the case it was shown that great pains had been taken to keep the oysters free from pollution.

Correspondence.

The Anglo-American Medical Association.

BERLIN, Feb. 3, 1904.

To the Editor:—The Anglo-American Medical Association of Berlin desires you to inform the profession of its organization and purposes. Realizing the difficulties which beset the path of the stranger the association places its services at the disposal of physicians who intend to study in Berlin. Such are cordially invited to attend the meetings which are held weekly, and any information concerning the work to be had here will be gladly given to any member of the profession who will communicate, on his arrival in Berlin, with Dr. J. H. Honan, president, Lützen Strasse 78, or with the undersigned committee.

ALBERT J. MAYER, M.D., Secretary.
DAVID SHANNON, M.B.
WM. W. GRAVES, M.D.

Albrecht Strasse 22.

NOTE.—Further particulars of this association were given in THE JOURNAL Jan. 30, 1904, p. 320.—ED.

Susceptibility to Disease.

GODDARD, KANS., Jan. 14, 1904.

To the Editor:—I desire to call the attention of the profession to an important factor in the estimation of susceptibility to disease as influenced by age, namely, the decrease in the number of persons living as age increases. I have not been able to learn by a search of such literature as is available to me, and by a correspondence with several men of wide knowledge that this fact has ever been considered in the construction of tables intended to illustrate the varying susceptibility to a given disease at different ages.

The tables or reports, as constructed, doubtless illustrate truly the prevalence of the disease at different ages, but fail signally in showing the varying susceptibility. Thus, a compilation before me shows that out of 434 cases of pneumonia, 42 occurred between the ages of 10 and 20, and 24 occurred in persons from 60 to 70 years of age. This statement alone indicates a greater liability to the disease at the earlier age than at the later. Let us apply to the statement the American table of mortality and observe the result. This table begins with 10 years of age, and assumes the death of all persons at 96; and is on the whole probably the nearest approach to actual experience in the United States that has been as yet compiled. Out of 100,000 persons at age ten, 99,251 are living at eleven, 98,505 at twelve, and 92,637 at twenty. At the age sixty-one, 56,371 and at age of seventy, 38,569 are living. Assuming that the compiler of the cases of pneumonia meant by the phrase "between 10 and 20 years" from 11 to 20, inclusive, we find the average number living in that decade, out of the original 100,000, to be 95,928, while for the decade 61 to 70, inclusive, there are living an average of 47,966; barely half as many. The ratio of liability, therefore, instead of being 42 to 24, is, if we take the number living in the first period as the basis of comparison, 42 to 24, multiplied by a fraction of which 95,928 is the numerator, and 47,966 the denominator; that is, 42 to 48—a marked difference.

In the computation of relative mortality, the difference is still more striking. Thus, Osler, in considering the etiology of pneumonia, quotes under the head of age from the census of 1890, that for every 100,000 of population there were between the ages of 15 and 45 years, 100.05 deaths; between 45 and 65, 263.12, and for 65 years and over, 733.77. Reducing this to a percentage, we have for the first period 9.1 per cent.; for the second, 24 per cent., and for the third period, 66.9 per cent.

Assuming that the author meant 15 to 44, inclusive, and 45 to 64, inclusive, for the first and second periods, we find the average number living in those periods to be, of the 100,000 living at 10 years of age, 85,751 and 64,942, respectively, while the average for the period of 65 to 95, inclusive, or the end of the table is 18,468. Assuming the average number living during the first period as the basis of comparison, we find the relative mortality to be, not 100.05 to 263.12, but 100.05 to 263.12 multiplied by a fraction, of which 85,751 is the numerator and 64,942 is the denominator; that is, 100.05 to 351.22. And a like calculation for the third period would show a relative mortality of the enormous number of 3,409. Reducing these numbers to percentages, we find for the first period a relative mortality of 2.6 per cent.; for the second, 9.1 per cent., and for the third, 88.3 per cent. While a comparison of deaths alone for the first and third periods shows a ratio of 1: 7.32, a consideration of the numbers of people living in the respective periods points to a real mortality ratio of 1 to 34.

It is hardly to be expected that many diseases will show such a striking difference in mortality at various ages as pneumonia; but only a careful investigation will determine, and the subject is worthy of such investigation.

In this study, other factors ought to be considered as immunity from a disease at a later age by reason of an attack at an earlier age. Thus, measles in this country is almost exclusively a disease of childhood, because of the well-nigh universal exposure at that time of life, and the consequent immunity, with rare exceptions, for the remainder of life. That it may attack individuals at all ages we know; and the universal predisposition to the disease at all ages, when not protected by an attack early in life, is well illustrated by the epidemic which raged a few years ago on the introduction of the disease into the Fiji Islands.

It will not be easy to eliminate this disturbing factor, though attention being directed to it in this connection, a long course of careful observation will do much toward that end. It will be easier to eliminate the effect of those diseases which, as pneumonia, leaves the patient, after a short immunity, with impaired powers of resistance to further infection. All that we have to do in that case is to exclude attacks subsequent to the first. The instances of second and later attacks of those diseases, one attack of which almost universally grants a life immunity, are so rare as to be perhaps negligible.

Notwithstanding the difficulty and perhaps the impossibility of getting ideal results, by reason of the obstacles alluded to, the investigation ought to be made in the interest of greater accuracy; and I venture to suggest a way of making it. Let a large number of the best hospitals in all portions of the United States be requested to send transcripts of their records bearing on this subject to some central office for compilation and calculation. Only in this way, it would appear, can a sufficient number of cases at all ages be had to give fairly accurate results.

This calculation ought to be made for each year of life. While I have never seen a table of infant mortality, the fact that a number of life-insurance companies take risks on children, points to the existence of such a table; and the short time involved, from birth to the tenth or the fifteenth year, ought to give assurance that the compilers have attained

to at least as great a degree of accuracy as is found in the tables for older ages.

A combination of the tables of mortality of infancy and childhood could then be made with the American or some other standard table, as the combined experience, and the calculation for all ages, from birth to 96 if the American be used, or 100 if the combined experience be selected, can be made. By such a combination we should be enabled to use the initial number at birth as a basis or unit of comparison for all ages, just as in the standard tables we can use the initial number 100,000 at age 10 as a basis of comparison for all subsequent ages.

It is in the hope that some one with the authority of a great medical organization behind him and to whom vast numbers of histories are, or may be made acceptable, may take up this work, that I have ventured to make the above suggestions.

W. H. GRAVES, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

CONGLUTINATION OF THE EXTERNAL OS AFTER AMPUTATION OF THE CERVIX.

SAN FRANCISCO, Feb. 1, 1904.

To the Editor:—The effect of amputation of the cervix on labor has, as far as I can ascertain, received but scant recognition; in fact, one of our most distinguished gynecologists dismisses the subject by saying: "Amputation of the cervix does not interfere with conception, pregnancy or labor." That with a preceding atresia conception could not take place needs no discussion, but that atresia can take place after conception, and interfere greatly with labor, the following case will illustrate. In May, 1903, it became absolutely necessary to amputate the cervix of a bipara, aged 26. She stated that menstruation had ceased a week previously. I did not curette the uterine cavity, being sceptical as to her veracity. Subsequent events proved my doubt to have been well founded. Three months after the operation, there being no recurrence at menstruation, she came for advice, and an examination showed a pregnancy of about four months, which continued without deviation, following the usual course. January 14 I was sent for, found patient in labor, the presenting part having entered the superior strait, covered by the upper vaginal wall, like a cap, but neither by the eye, through a speculum nor by the sense of touch, could the slightest opening be detected. The pains suddenly ceased for a week, then began with renewed vigor, keeping up for two days, the position of the fetus remaining exactly the same, with not the slightest sign of dilation. Further delay being dangerous, I called Dr. Frank Gray in consultation; we concluded that if an entrance could not be effected through the vagina, cesarean section and a possible Porro operation were strongly indicated. I admit the latter did not appeal to me, both on account of the danger from shock and the age of the patient. She was removed to Lane Hospital, and after twenty minutes' probing with the finger, I felt a sunken spot, bored through and entered the cavity through the internal os, which was dilated to the size of a dollar. I continued manual dilation and found a breech, that had just about entered the pelvic cavity, applied forceps and extracted babe in a condition of asphyxia livida. Twenty minutes of artificial respiration insufflation, etc., restored the child. The patient made an uninterrupted recovery, the temperature never reaching above 99.8. At present both mother and child are doing well. Had the patient menstruated within the usual time after the cervical operation the probabilities are that no atresia of the canal would have taken place, as no such result followed a number of previous similar operations. Now the question arises, will the os remain patent? I can not evolve a satisfactory answer, for possibly the next six months, but in the meantime will keep the patient under observation, using the probe from time to time.

WILLIAM HIMMELSBACH, M.D.

ANSWER.—Occlusion of the external os is a well-recognized although somewhat rare cause of dystocia. It may occur in primiparæ who have never undergone local treatment when it is generally due to persistence of a "pinhole" os. In multiparæ or in primiparæ who have had treatment, it is generally due to traumatic adhesions that may follow injuries of labor or caustic applications or operations like amputations of the cervix. Cases of occlusion of the external os due to amputation have been reported, but not frequently, and the above case is worth recording. In the diagnosis of this condition the possibility of the displacement of the cervix to one side, backward or even above the promontory, must be kept in mind. When the diagnosis is made, the minute opening which marks the external os or the depression which marks where it should be, is carefully sought for by the examining finger, and if found, an opening made by the simple maneuver adopted by our correspondent. When the site of the external orifice can not be determined by palpation the patient should be put in a good light, under anesthesia if necessary, and the walls of the vagina well retracted to allow a thorough inspection of its fornix. In this way the orifice or the location where it should be may generally be found and dilatation begun by stretching or cutting. In those rare cases in which the original location of the os can not be determined it may be necessary to make a crucial incision that may need extension to admit the immediate delivery if the case is urgent. We are not aware that agglutination has occurred repeatedly in the same patient, but it would certainly be desirable to keep such a patient under observation, both before and after the occurrence of a subsequent pregnancy. Incidentally we suggest that the practice of applying forceps to the breech is not to be commended. Pushing up the breech and bringing down a leg is certainly a safer and more reasonable procedure.

FIRST AID INSTRUCTION TO PUBLIC SCHOOL SCHOLARS.

DRACHM, Salt Lake City, writes: A western physician has a 14-year-old boy who recently showed that he was not alone possessed of good sound horse sense and proper surgical instinct, but is a good booster for his father. While playing with a crowd of boys one little chap ran a rusty nail into the sole of his foot. The doctor's boy immediately carried him into a nearby house, where, in spite of his patient's tears and protestations, he first removed the shoe and stocking, and after washing the foot carefully with hot water, carried him several blocks on his back to his father's office, where the wound was disinfected and dressed. The incident suggests the good that might be accomplished, or rather the harm that might be prevented, by a little instruction along these lines to the older pupils in the public schools.

HERNIOPLASTY.

DR. HERMANN B. GESSNER, New Orleans, writes to suggest the use of the word "hernioplasty" to replace the expression "radical cure operation for hernia." The reasons for the substitution are, he believes, obvious.

Marriages.

EDWARD B. HODGE, JR., M.D., to Miss Mary G. C. Greene, both of Philadelphia, February 10.

THADDEUS COTHERN, M.D., Walcott, Ark., to Miss Anna Hutchins of Finch, Ark., January 24.

THEODORE H. PAGE, M.D., Gold Hill, Colo., to Miss Mathilda Heidrich of Peoria, Ill., February 9.

ANDREW CLIFTON HANSEN, M.D., Fulton, Ill., to Miss Stella L. Griffin of Peoria, Ill., December 31.

JAMES A. TURNER, M.D., High Point, N. C., to Miss Fannie M. Little of Charlotte, N. C., February 4.

ERNEST F. ROBINSON, M.D., Kansas City, Mo., to Miss Mary Kip of San Francisco, at Omaha, February 6.

J. MILLER BYRNE, M.D., Waynesboro, Ga., to Miss Mary Willie Heggie of Grovetown, Ga., February 24.

JOHN DUNCAN EMMET, M.D., New York City, to Miss Josephine Wharton Drexel of Philadelphia, February 9.

Deaths.

Virgil O. Hardon, M.D. Bellevue Hospital Medical College, New York, 1874, professor of obstetrics and diseases of women and children in the Atlanta College of Physicians and Surgeons, died at his home in Atlanta, Ga., from pneumonia complicated by organic heart disease, February 7, after an illness of ten days, aged 54. The active and honorary pallbearers were members of the faculty of the college, and the Atlanta Academy of Medicine furnished an honorary escort of its members.

John Eggleston Byers, M.D. New York University, 1879, for twenty years surgeon of the Pennsylvania Railroad at Butler, Pa.; a member of the National Association of Railway Surgeons, the Medical Society of the State of Pennsylvania, and recently president of the Butler County Medical Society,

died suddenly from cerebral hemorrhage, February 8, aged 49. His death is attributed to overwork as county physician during the recent epidemic of typhoid fever.

Jacob Repolye Ludlow, M.D. University of Pennsylvania, Philadelphia, 1845, lieutenant-colonel in the medical department during the Civil War; first president and a life-long member of the Easton Medical Society, died from pneumonia at his home in Easton, Pa., February 10, aged 79. He retired from practice five years ago.

Henry Lyle Smith, M.D. College of Physicians and Surgeons, New York, 1864, a member of the New York State Medical Association, the New York State and and Columbia County societies, and of the Society of the Alumni of Bellevue Hospital, New York, died, February 11, at his home in Hudson, N. Y., aged 60.

John W. Jones, M.D. University of Pennsylvania, Philadelphia, 1857, for many years a member of the State Board of Health, and once president of the Medical Society of the State of North Carolina, died at his home in Tarboro, N. C., January 28, from paralysis, after an illness of a few hours, aged 72.

Edward C. Runge, M.D. Washington University, St. Louis, 1891, up to February 1, superintendent of the St. Louis Insane Asylum, died at his home in St. Louis, February 10, from pneumonia, following influenza, after an illness of one week, aged 50.

Edward Howard Moore, M.D. Starling Medical College, Columbus, 1903, chief assistant at the Lawrence Hospital for Women, Columbus, died at the hospital, February 6, from cerebral meningitis, after a short illness, aged 28.

Joseph G. Rooney, M.D. New York University, 1891, of West Hoboken, N. J., died February 4, from gangrene following frost-bite of the hands, January 18, when he attended a number of firemen who had been injured.

M. Luther Goodlett, M.D. Medical College of the State of South Carolina, Charleston, 1861, surgeon in charge of Winder Hospital, Richmond, during the Civil War, died at his home in Tupelo, Miss., February 5, aged 69.

Howard Jackson Seeley, M.D. Long Island College Hospital, Brooklyn, 1899, professor of histology in that institution, a resident of Brooklyn, died at Asheville, N. C., from pneumonia, February 7, after a brief illness.

Joseph B. Roe, M.D. University of Pennsylvania, Philadelphia, 1861, surgeon for four years during the Civil War, and state senator in 1889 and 1890, died at his home in Woodbury, N. J., February 4, aged 68.

John R. Hinkson, M.D. Bellevue Hospital Medical College, New York, 1899, died at his home in Blissville, Long Island City, February 5, from pneumonia, after an illness of one day, aged 48.

Frederick Corfe, M.D., surgeon in the British service and also in the Civil War, died suddenly from heart disease while responding to a toast at a banquet in Union, Iowa, January 29, aged 69.

Nicholas M. Edwards, M.D. University of Pennsylvania, Philadelphia, 1860, died at his home in Slater, Mo., February 8, from paralysis following a fall four days before, aged 66.

Daniel Francis Murphy, M.D. Harvard University Medical School, Boston, 1887, died from pneumonia at his home in Woburn, Mass., January 30, after a short illness, aged 44.

Charles Edward Manierre, M.D. Chicago Medical College, 1882, of Chicago, a member of the American Medical Association, died at Oconomowoc, Wis., February 8, aged 43.

Richard McDermott, M.D. Starling Medical College, Columbus, 1882, died at his home in Thompsonville, Mich., February 4, from gallstone disease, after a long illness, aged 53.

John Mercer Adler, M.D., of Devon, Pa., chief surgeon of the military hospital at Davenport, Iowa, in the Civil War, died at his home, February 13, from apoplexy, aged 76.

Christopher B. Naudain, M.D. Pennsylvania Medical College, Philadelphia, 1856, was found dead at his home in Wilmington, Del., from heart disease, February 1, aged 67.

Charles H. St. John, M.D. Kansas City (Mo.) Homeopathic Medical College, 1896, died at his home in Salina, Kan., February 5, after an illness of several weeks.

Oscar Everett Carter, M.D. University of Vermont, Burlington, 1884, died suddenly at his home in St. Johnsbury, Vt., from heart disease, January 29, aged 44.

Theodore F. Stark, M.D. Jefferson Medical College, Philadelphia, 1877, died at his home in Minneapolis, Minn., January 30.

Charles Frank Keys, M.D. New York University, 1891, died at his home in Keyser, W. Va., February 4, from pneumonia, after an illness of three weeks, aged 38.

Henry Bigelow Allen, M.D. Bellevue Hospital Medical College, 1866, died at his home in Baldwinsville, N. Y., January 30, after an illness of six years, aged 60.

J. L. Roll, M.D. Louisville Medical College, 1881, died at his home near Wilderville, Texas, from consumption, after an illness of several months, January 30.

Elias Vernon, M.D. Jefferson Medical College, Philadelphia, 1851, died at his home in Hamilton, Ont., February 6, after a long period of invalidism, aged 76.

Frank Gaylord Eastman, M.D. College of Physicians and Surgeons, New York, 1890, died at his home in East Greenwich, Conn., February 8, aged 37.

John R. Anderson, M.D. University of Nashville, 1859, died at the home of Dr. John W. Nuckolls, Toone, Tenn., February 8, after a long illness, aged 72.

Luther B. Hunley, M.D. University of Maryland School of Medicine, Baltimore, 1877, died at his home in Mathews, Va., February 4, from pneumonia.

Ashbel R. Otis, M.D. Jefferson Medical College, 1867, died from pneumonia at his home in Dundee, N. Y., February 5, after a short illness, aged 62.

Bernard J. Carr, M.D. College of Physicians and Surgeons, Baltimore, 1895, died at his home in Beloit, Wis., from typhoid fever, February 8, aged 35.

Charles S. Pugsley, M.D. University of Buffalo, 1870, died in Olean, N. Y., from Bright's disease, after a long illness, January 30, aged 59.

Charles W. Dodd, M.D. University of Michigan, Ann Arbor, 1884, died suddenly from apoplexy, at his home in Cincinnati, February 7, aged 44.

Enoch F. Bradford, M.D. Harvard University Medical School, Boston, 1869, died at his home in Mechanic Falls, Me., February 8, aged 69.

Edward Silverberg, M.D. University of Louisville, 1855, of Knobel, Ark., died at St. Vincent's Infirmary, Little Rock, February 9.

Enoch Q. Marston, M.D. Harvard University Medical School, Boston, 1876, died at his home in Center Sandwich, N. H., February 1.

William H. Jones, M.D. Medical College of Ohio, Cincinnati, 1869, died suddenly at his home in Henry, Ill., February 9, aged 60.

James H. Fleming, M.D. Missouri, 1866, died at his home in Joplin, Mo., February 3, from paralysis, after a brief illness, aged 71.

Henry Cornell, M.D. University of Vermont, Burlington, 1854, died suddenly at his home in Hilladale, N. Y., January 24, aged 84.

William L. Robinson, M.D. Eclectic Medical Institute, Cincinnati, 1886, of Milton Center, Ohio, died recently in Toledo, aged 42.

William D. Wade, M.D. Eclectic Medical Institute, Cincinnati, 1870, died at his home in Plymouth, Ill., February 8, aged 62.

Ida E. Mushett, M.D. Eclectic Medical Institute, Cincinnati, 1879, died at her home in Napa, Cal., February 2, after a short illness.

John A. Groff, M.D. University of Pennsylvania, Philadelphia, died at his home in Reading, Pa., February 4, aged 59.

P. P. Gray, M.D. Hahnemann Medical College, Chicago, 1880, died at his home in Ellensburg, Wash., February 7, aged 60.

Ora E. Marvin. M.D., of Springfield, Mass., died suddenly from apoplexy, at Westfield, Mass., February 1, aged 56.

Thomas Mullin, M.D. Ohio, died suddenly from heart disease at his home in Marietta, Ohio, February 6, aged 48.

Henry W. Hill, M.D. New York University, 1849, died at the home of his son in Rome, Ga., February 6, aged 70.

David D. Ross, M.D. Eclectic Medical Institute, Cincinnati, 1863, died at his home in Peoria, Ill., recently.

Joseph Hoffmeister, M.D., died at his home in Rutledge, Tenn., February 8, aged 78.

J. H. Wood, M.D., died at the home of his son in Emporia, Va., February 8, aged 85.

Emil Barringer, M.D., died at his home in Watervliet, Mich., February 4, aged 58.

Miscellany.

Otero's Method of Demonstrating the Malaria Parasite.—M. Otero of Mexico writes to the *Gaceta Medica* of March 15, 1903, that at the high altitude of the city of Mexico the barometric pressure is much less than at the altitudes where Laveran made his experiments with the malaria parasite. Consequently the hematozoa retain their motility longer. The corpuscles in the blood become disintegrated long before the parasites lose their motility. By waiting six to nine or even twenty-four hours the hematozoa are still lively while the corpuscles are destroyed. They are thus easily differentiated without the necessity for staining, which impairs the vitality of micro-organisms.

The Bureau of Standards.—This bureau, which was transferred to the Department of Commerce and Labor last year, tests and standardizes all weights and measures. This includes the testing of clinical thermometers to secure a uniform scale of temperature. According to the bulletin just received, when the work of this bureau began, considerable variation was found in thermometers; as a result of the corrections given, thermometers now submitted by different manufacturers vary from the international standard only very minutely. Attention is called in this bulletin to the fact that thermometers not made of hard glass change their indications slightly by seasoning. After six months the indications are practically permanent.

Contract Practice.—The Norfolk (Va.) Medical Society recently took up the subject of contract practice and adopted certain rules governing it. Individual or family contracts are prohibited by that society. Governmental contracts are allowable as in the past. In regard to corporations, it was decided that the employment of a surgeon to care for men injured while in the employ of the company, is allowable, providing it does not prevent the patient from having free choice in the selection of the physician, but the society "would prefer that the surgeon be paid for actual work done and not a yearly salary." Any underbidding for insurance fees is considered not consistent with membership in the society. Club practice, which is defined as a branch of contract practice which furnishes medical attention to members through an organization or club, is prohibited. It was decided that "this class of practice injures the profession as a whole financially; that it lowers the dignity of the profession by putting the men who do this work at the mercy of promoters, and that it is of great injury to the members of the medical fraternity."

Homeopathy Given a Chance in the Leyden Medical Faculty.—The chair of pathology and therapeutics at the University of Leyden, Holland, has been vacant since the retirement of Professor Rosenstein who reached the age limit nearly a year ago. When the government indicated its intention of calling a homeopath to the chair, the medical faculty protested. One member of the faculty, Professor Straub, editor of the local medical journal, did not agree with his confrères, and approved of the plan, stating that he would like to see a homeopath in the chair and a well-equipped hospital placed in his charge in order to give homeopathy once for all a chance to show what it could accomplish. If it could show better results than were attained in the other clinics and hospitals, the profession would gladly recognize it. The matter was discussed pro and con for a long time in the lay press, and the recommendations of Professor Straub were finally adopted and further opposition abandoned. The minister then appointed two homeopaths to select a suitable candidate to fill the chair worthily, the only restriction being that he must not be a Hollander, as local professional clashing was feared. The nominating committee traveled far afield, and among others sought the credentials of a "Dr." Mende-Ernst, an ex-parson homeopath charlatan in Switzerland. The latter at once advertised abroad that he had been offered the chair and had accepted it, and this item went the rounds of the medical press. But it was untrue, as the committee dropped him at once from its list so soon as his reputation was known. The results of their search, embodied in their report, are to the effect that they were absolutely unable to find a homeopath with sufficient educational acquirements for a professorship in a university. Consequently a young physician, a Hollander, Dr. P. Ruitenga, has been called to the chair which was the scene of Stokvis' labors, and he entered on his duties with the new year. The *Wiener klinische Rundschau* of January 17 publishes a letter from Amsterdam in which the writer comments on the above facts and says that the homeopaths can never more make their old complaint that they are never given a change.

Diet.—The *Medical Sentinel* condemns the diet craze, and suggests that the profession, instead of passively allowing patients to putter with some of the hundreds of patent breakfast foods, should turn their attention away from morbid self-dieting. The concentrated nourishment theory is a myth, and it is recommended that patients be allowed to eat these alleged foods only on the proviso that they eat breakfast first. The editor says that one egg or two small rashers of bacon contain more actual nourishment than a soup dish full of the flaky delusions. This may be true, but we doubt the advisability of recommending eggs or bacon, as they are ordinarily fried, as food for dyspeptics. The editor hits the nail on the head in the following words: "The conviction is steadily growing in the profession that disturbances of digestion, let alone other diseases, are due in eight cases out of ten, not so much to the food used, either in quantity, quality, or method of cooking, as to the circumstances under which it is eaten; the disgraceful hurry and rush with which business or pleasure is resumed before the digestion has had time to get fairly under way, and the utter lack of an adequate amount of exercise in the open air to enable proper combustion of the food. Further than that we are reacting decidedly from the exclusive and rigid diet for almost any condition whatever, with the partial exception of diabetes. Even where these exclusive diets may relieve the symptoms which they are designed especially to meet, they are very apt to upset the general balance of nutrition and impair the vitality, frequently in the long run aggravating even the symptoms, or the disease, which they were prescribed to cure." On the same subject is an article in *The World's Work* (February) on "Perfect Feeding of the Human Body," which is only a description of how one man, Mr. Horace Fletcher, having been refused life insurance on the ground of stomach trouble, corrected his habits and vastly improved his health. He does not diet in the ordinary understanding of the word. He eats everything, but in very small quantities. He has a rule to take thirty chews on each portion of food he places in his mouth. He says that the longer he chews the better it tastes. He now eats one-third or one-quarter what he formerly ate. He can do physical exertion equal to an athlete in training without fatigue, and finds less sleep necessary. This is not a new theory, but it is all right. Morbid introspection is the bane of the dyspeptic. An abundance of time to eat, a thorough mastication and cheerful surroundings are better than all the diet lists and breakfast foods that have ever been prepared.

State Boards of Registration.

COMING EXAMINATIONS.

Regent of the State Board of Medical Examiners of New Hampshire, State House, Concord, March 1-2. Regent, Channing Folsom, M.D., Concord.

Board of Registration in Medicine for Massachusetts, State House, Boston, March 8-9. Secretary, Edwin B. Harvey, M.D., State House, Boston.

Committee of Examination of Connecticut, New Haven, Hartford and Waterbury, March 8. Secretary, Prof. C. A. Lindsly, New Haven.

Maine Board of Registration of Medicine, Portland, March 23. Secretary, A. K. P. Meserve, M.D., Portland.

Regular Board of Medical Examiners for Georgia, Atlanta, March 30. Secretary, I. H. Goss, M.D., Athens.

North Dakota Report.—Dr. H. M. Wheeler, Grand Forks, secretary of the North Dakota State Board of Medical Examiners, reports that 16 applicants passed, out of 18 who took the written examination in January at Grand Forks. The percentage required was 75. The colleges, grades and years of graduation are below.

PASSED.

College.	Year Grad.	Per Cent.
Milwaukee Medical College	(1903)	76, 78
Northwestern University, Chicago	(1903)	85, 89
University of Minnesota	(1900) 80, (1901)	87
Royal University of Norway	(1891)	82
University of the City of New York	(1899)	78
University of Iowa, Hom. Dept	(1898)	76
University of Illinois	(1903)	75
Hamline University	(1901)	87
University of Christiania, Norway	(1897)	82
McGill University	(1903)	82
University of Nebraska	(1903)	76
University of Western Canada	(1902)	82

Those rejected were graduates of Bennett Medical college, 1895, and Milwaukee Medical College, 1902.

South Dakota Report.—Dr. H. E. McNutt, Aberdeen, secretary of the South Dakota Board of Medical Examiners, reports the written examination held at Sioux Falls, Jan. 13 and 14, 1904, as follows: Subjects, 10; questions, 80; percentage required, 75; total applicants, 24; passed, 17; failed, 4; withdrew, 3.

College.	Year Grad.	Per Cent.
Northwestern University, Chicago	(1900) 86, (1903)	79, 86
Rush Medical College, Chicago	(1880)	89
College Physicians and Surgeons, New York	(1891)	84
Milwaukee Medical College	(1902)	82
Beaumont Hospital Medical College	(1897)	83
Hamline University	(1903)	85
Woman's Medical College of Pennsylvania	(1903)	93
Yale University	(1902)	81
Saginaw Valley (Michigan) Medical College	(1902)	78
Sioux City College of Medicine	(1897)	88
Michigan University	(1902)	97
Alabama Medical College	(1884)	75
University of Christiania, Norway	(1891)	90
Harvey Medical College, Chicago	(1903)	87
Bennett Medical College, Chicago	(1900)	82

Those who failed were graduates of the following colleges: University of Iowa, 1897; Hamline University, 1903; College of Physicians and Surgeons, St. Louis, 1898; New York University Medical College, 1890. Those who withdrew were graduates of Sioux City College of Medicine, 1903; Baltimore University, 1887, and University of Vermont, 1889. Three others who were unfitted left the state without attempting the examination, although they had applied and paid the fee.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Feb. 13, 1904:

Hess, Louis T., and Collins, C. C., asst.-surgeons, promoted captain and asst.-surgeon, U. S. Army, to rank from Jan. 30, 1904.

Webb, Walter D., asst.-surgeon, promoted captain and asst.-surgeon, U. S. Army, to rank from Feb. 10, 1904.

Graves, Leonard K., contract surgeon, ordered to proceed from New York City to Fort Douglas, Utah, and accompany the Twelfth Infantry to service in the Philippines.

Ferguson James B., contract surgeon, ordered from Boise Barracks, Idaho, to duty as transport surgeon of the *Dix*.

Tukey, William H., contract surgeon, at present transport surgeon of the *Dix*, ordered to proceed when relieved to Boise Barracks, Idaho, for duty.

Tignor, Edwin P., contract dental surgeon, ordered from Jefferson Barracks, Mo., to temporary duty at Fort Crook, Neb., on the completion of which he will return to his proper station, Fort Riley, Kan.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Feb. 13, 1904:

Stuart, A., asst.-surgeon, detached from the naval hospital, Naval Home, Philadelphia, Pa., and ordered to the *Marietta*.

Brister, J. M., asst.-surgeon, ordered to the naval hospital, Naval Home, Philadelphia.

Wheeler, W. M., surgeon, detached from the *Hist* and ordered to the *Philadelphia*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 11, 1904:

Brooks, S. D., surgeon, granted leave of absence for four months from April 1, 1904, with permission to go beyond the seas.

Magruder, G. M., surgeon, granted leave of absence for two days from February 12.

Greene, J. B., P. A. surgeon, granted fifteen days' extension of sick leave from February 10.

Clark, Taliaferre, P. A. surgeon, to proceed to San Juan, P. R., and assume temporary charge during the absence of the chief quarantine officer.

Richardson, T. F., and King, W. W., asst.-surgeons, to report March 9, 1904, to chairman of examining board at Washington, D. C., to determine their fitness for promotion to the grade of P. A. surgeon.

Ramus, Carl, asst.-surgeon, to report, March 9, 1904, to chairman of examining board at San Francisco for examination to determine his fitness for promotion to the grade of P. A. surgeon.

Moore, Dunlop, Holt, J. M., Vogel, C. W., and Fox, Carroll, asst.-surgeons, to report, July 25, 1904 to the recorder of examining board at Manila, P. I., for examintion to determine their fitness for promotion to the grade of P. A. surgeon.

Goldberger, Joseph, asst.-surgeon, granted leave of absence for one month from February 10.

BOARDS CONVENED.

Board convened at San Francisco for the examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-surgeon Carl Ramus, recorder.

Board convened at the Marine Hospital, Port Townsend, Wash., Feb. 15, 1904, for the examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; P. A. Surgeon M. H. Foster, recorder.

Board to meet at the Marine Hospital, San Francisco, March 9, 1904, to examine Asst.-surgeon Carl Ramus to determine his fitness for promotion to the grade of P. A. surgeon. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon Rupert Blue; P. A. Surgeon H. S. Cumming, recorder.

Board to meet at Washington, D. C., March 9, 1904, to examine certain assistant surgeons to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Asst.-Surgeon-General A. H. Glennan, chairman; Asst.-Surgeon-General G. T. Vaughan; Asst.-Surgeon-General H. D. Geddings, recorder.

Board convened to examine certain assistant surgeons to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Asst.-Surgeon-General L. L. Williams, chairman; Asst.-Surgeon-General W. J. Pettus; P. A. Surgeon V. G. Heiser, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Feb. 12, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, Jan. 24-31, 3 cases.
Illinois: Danville, Jan. 30-Feb. 6, 1 case.
Louisiana: New Orleans, Jan. 30-Feb. 6, 5 cases.
Maine: Calais, Feb. 7, 5 cases; Madison, Jan. 28, 1 case.
Maryland: Baltimore, Jan. 30-Feb. 6, 1 case.
Michigan: Jan. 23-30, 89 places; Jan. 30-Feb. 6, Detroit, 3 cases; Flint, 1 case.
New Hampshire: Manchester, Jan. 30-Feb. 6, 9 cases.
New Jersey: Jan. 30-Feb. 6, Newark, 1 case; Trenton, 3 cases, 1 death.
New York: Jan. 30-Feb. 6, Niagara Falls, 1 case; New York, 5 cases.
Ohio: Jan. 30-Feb. 6, Bucyrus, 9 cases; Dayton, 12 cases; Cincinnati, Jan. 22-Feb. 5, 6 cases.
Pennsylvania: Jan. 30-Feb. 6, Allentown, 2 cases; Butler, 1 case; Johnstown, 5 cases; McKeesport, 2 cases; Philadelphia, 54 cases, 16 deaths; Pittsburg, 5 cases, 1 death; Warren, Jan. 1-Feb. 1, 10 cases, 2 deaths.
Tennessee: Nashville, Jan. 30-Feb. 6, 2 cases.
Utah: Ogden, Jan. 1-31, 1 case; Salt Lake City, Jan. 30-Feb. 6, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Dec. 12-Jan. 2, 2 cases, 2 deaths.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 9-16, 5 cases.
Belgium: Liege, Jan. 9-16, 1 case, 1 death.
Brazil: Rio de Janeiro, Jan. 3-10, 34 cases, 22 deaths.
Canada: Ontario, Dec. 31-Jan. 13 cases.
Chile: Antofagasta, Dec. 1-31, 8 deaths.
China: Shanghai, Dec. 19-26, 6 deaths.
Colombia: Barranquilla, Jan. 12-18, 1 death.
France: Paris, Jan. 16-23, 17 cases, 9 deaths.
Great Britain: Jan. 9-16, Nottingham, 5 cases, 1 death; Sheffield, 1 case; Jan. 16-23, Hull, 1 case; Liverpool, 1 case; London, 3 cases; Manchester, 2 cases; Newcastle-on-Tyne, 3 cases; Glasgow, Jan. 22-29, 71 cases; 2 deaths.
India: Bombay, Jan. 5-12, 6 deaths; Karachi, Jan. 3-10, 2 cases.
Mexico: Tampico, Jan. 24-31, 1 death.
Netherlands: Rotterdam, Jan. 16-23, 1 case.
Russia: Moscow, Jan. 2-9, 2 cases, 2 deaths; Jan. 9-16, Odessa, 1 death; St. Petersburg, 18 cases, 3 deaths.
Spain: Barcelona, Jan. 10-20, 5 cases; Santander, Jan. 18-26, 4 cases, 3 deaths.
Turkey: Smyrna, Jan. 3-18, 9 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Jan. 2-9, 1 case.
Mexico: Jan. 17-30, Merida, 1 case, 1 death; Tehuantepec, 2 cases, 2 deaths; Vera Cruz, Jan. 23-30, 1 case, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Dec. 12-Jan. 2, Manila, 9 cases, 8 deaths; Provinces, 44 cases, 33 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Dec. 26-Jan. 9, 30 deaths.
Turkey in Asia: Nindieh, Dec. 12-19, 2 deaths; Kerbela, Dec. 11-22, 422 deaths; Mesopotamia, Dec. 18-20, 82 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Dec. 12-Jan. 2, 1 case, 1 death.

PLAGUE—FOREIGN.

Australia: Queensland, Cairns, Dec. 5, 2 cases.
Rio de Janeiro: Jan. 3-10, 10 cases, 5 deaths.

India: Bombay, Jan. 5-12, 186 deaths; Calcutta, Dec. 26-Jan. 9, 33 cases; Karachi, Jan. 3-10, 8 cases, 5 deaths.
Mauritius: Dec. 31-Jan. 7, 55 cases, 37 deaths.
South Africa: Natal, Dec. 5-12, 2 cases.

Medical Organization.

California.

SAN BENITO COUNTY MEDICAL SOCIETY.—A meeting of physicians of the county was called by Dr. Philip M. Jones, San Francisco, trustee of the state medical society, at Hollister, January 24, for the purpose of organizing a county society on the standard plan. Dr. James H. Tebbetts, Hollister, was elected temporary chairman. A constitution and by-laws in conformity with those of the state society were adopted, and the following permanent officers elected: President, Dr. James H. Tebbetts, vice-presidents, Dr. Richard W. O. Bannon; secretary, Dr. Joseph M. O'Donnell; treasurer, Dr. Leonard C. Hull, and censors, Drs. Francis O. Nash, Ian Don Ball, and George C. Porter, all of Hollister.

Ohio.

HANCOCK COUNTY MEDICAL SOCIETY.—Complete organization of this society was effected at a meeting held in Findlay, February 4. The following officers were elected: President, Dr. John C. Tritch, Findlay; vice-president, Dr. Leroy S. Woods, Rawson; secretary, Dr. John M. Firmin, Findlay; treasurer, Dr. Joseph P. Baker, Findlay; delegate to state society, Dr. Jacob A. Kimmel, Findlay; censors, Drs. Norman L. McLachlan, Findlay, Myron J. Ewing, Findlay, and Edward G. Hersh, McComb, and committee on public health and legislation, Drs. Francis W. Firmin, Alfred W. Balsley and Herbert V. Beardsley, all of Findlay.

LAKE COUNTY MEDICAL SOCIETY.—Dr. Thomas C. Martin, Cleveland, secretary of the council of the Ohio State Medical Association, and councilor for the Fifth District, met the physicians of the county at Painesville, February 6, detailed the standard plan of organization, enumerated its benefits, and aided in the organization of a county society. The standard constitution and by-laws were adopted, and the following officers elected: Dr. Edward B. Root, Painesville, president; Dr. Henry E. York, Fairport, vice-president; Dr. Thomas M. Moore, Willoughby, secretary; Dr. H. N. Amidon, Painesville, treasurer; Dr. Harris G. Sherman, Painesville, delegate to state society; Drs. David J. Merriman, Painesville, John W. Lowe, Mentor, and Charles H. Quayle, Madison, censors, and Drs. Charles F. House, Painesville, David J. Merriman, Painesville, and Thomas M. Moore, Willoughby, committee on public health and legislation.

Texas.

FIFTH DISTRICT MEDICAL SOCIETY.—Representatives from sixteen counties of this district met at San Antonio, February 2. Dr. Malone Duggan, Eagle Pass, Maverick County, was elected temporary chairman, and Dr. Marvin B. Grace, Seguin, Guadalupe County, temporary secretary. After Dr. Witten B. Russ, San Antonio, councilor for the district had stated the object of the meeting, a committee, consisting of Drs. Alonzo Garwood, New Braunfels, Comal County, and John V. Spring and Witten B. Russ of San Antonio, Bexar County, was appointed to draft a constitution and by-laws. At the evening session this committee made its report, and presented a constitution and by-laws, which were adopted. The following officers were elected: President, Dr. Malone Duggan, Eagle Pass, Maverick County; vice-presidents, Drs. J. R. Evans, Devine, Medina County, William S. Pickett, Karnes City, Karnes County, Charles W. Watt, Uvalde, Uvalde County, Henry Leonard New Braunfels, Comal County, David H. Houston, Floresville, Wilson County, Asa M. Stamps, Seguin, Guadalupe County, and R. N. Lane, Eagle Pass, Maverick County; secretary, Dr. Marvin B. Grace, Seguin, Guadalupe County; treasurer, Dr. John T. Fitzsimon, Castroville, Medina County, and censors, Drs. Alonzo Garwood, New Braunfels, Comal County, W. A. King, Falls City, Karnes County, and William Myers, Seguin, Guadalupe County.

Society Proceedings.

ACADEMY OF MEDICINE OF CLEVELAND.

Regular Meeting, held Jan. 15, 1904.

The President, Dr. George W. Crile, in the Chair.

Dr. S. W. Kelly described and exhibited a new truss for abdominal hernia.

Ankylosis and Caries Due to Gonorrheal Infection.

DR. C. A. HAMANN said that joint affections of various kinds may be caused by the gonococcus, and ankylosis is a frequent result of the inflammatory process. Broadhurst mentions a case where every joint in the body became ankylosed. The union is usually fibrous, but there may be true bony ankylosis. One group of cases, the milder form, shows no change in the position of the limb and no contractures, but in two of the cases here reported, although there was no deformity there was extensive destruction of the joint. In the other group of cases there are various displacements and muscular contractures; destruction of the joint surfaces may follow with resulting ankylosis, shortening and lameness.

CASE 1.—The patient had gonorrhea seven months before Dr. Hamann saw him, the hip became painful and fibrous ankylosis in the extended position of the limb developed. There was little, if any motion of the joint, but there was a sort of springiness and the periarticular muscle became contracted on attempting to move the joint. Under an anesthetic, and by using considerable force the adhesions were broken down, there was marked improvement, but not complete restoration of function.

CASE 2.—Patient contracted gonorrhea, and within a month acquired gonorrheal rheumatism, affecting the right hip only. He spent three months in bed with the thigh abducted and flexed; on first sitting up he could not walk, but four weeks later could do so without a cane. Operation was performed four weeks after onset of the gonorrhea, which still existed, as was shown by gonococci in the urethral discharge. There was marked obliquity of the pelvis; curving of the lumbar spine; thigh flexed and abducted; right buttock flattened; gluteal crease oblique; base of right thigh broader than that of the left; no atrophy of muscles; distance between the right anterior superior spinous process and the inner condyle 18½ inches, left side 20 inches; trochanter major not below Nélaton's line; this was determined at the operation, but not distinctly felt previously, as it was deeply placed; foot was everted. The symptoms were those of an obturator dislocation, and it was so regarded at first. Under anesthesia the supposed dislocation could not be reduced, nor could any motion be obtained in the joint, the joint was therefore incised, and the head of the bone found firmly united by bone with the acetabulum. The neck of the femur was divided close to the trochanter, the bony surfaces modeled into close relation and the limb put up in extension; a plaster cast was employed later and a good result obtained; the patient can walk with a cane, the hip is extended, and there is some shortening. As the patient has not been seen lately, it is unknown whether there is bony union or movement in the new joint.

In a search of the literature Dr. Hamann could find but one case each of excision of the hip and of the knee for gonorrheal arthritis; the following cases should, therefore, prove of interest.

CASE 3.—Patient contracted gonorrhea in June, 1903, within a month had pain in right hip, knee and ankle; pain severe; contractures developed; medication had no effect, the position of limb was corrected under anesthesia and a cast applied. In October there was thickening of right hip, eversion of limb and pain on pressure or motion, fever 101-102 for a time. The condition resembled either tuberculosis or a neoplasm. At the operation in November the head of the femur and acetabulum were found to be eroded from granular ostitis; the cartilage and ligamentum teres were destroyed; there was no pus but granulation tissue, some partly organized, was found. The case appeared to be tubercular and was treated as such by excision of the joint and thorough curetting of the diseased tissue. The case progressed very favorably; the result is all that could be desired. The pathologic examination showed granulation tissue, but no evidences of tuberculosis, such as giant cells, etc., could be found; no tubercle bacilli or other bacteria could be found in stained sections; cultures were negative. Syphilis having been excluded and there being no evidence of tuberculosis, the process was thought to be due to the gonococcus.

CASE 4.—The patient, 41 years old, while suffering from gonorrhea began to have pain in left hip, knee and shoulder, 2½ months before admission to the City Hospital. He had also some fever and sweating, and had lost weight rapidly for the previous month. The usual treatment for gonorrheal rheumatism served merely to lessen the pain in the knee. Two months after admission the left hip was tender on pressure, and there was pain on attempted motion; the limb was extended and there was no fever; the joint was visibly thickened and the condition resembled that of the last case. As there was no improvement the joint was excised and the diseased tissue curetted away. No pus was found, but masses of granulation tissue and semi-organized lymph occupied the joint; the articular surfaces of the femur and acetabulum were eroded and the cartilages and ligamentum teres were partly destroyed. The wound healed by first intention. Bacteriologic examination of the diseased tissue gave one culture on ascites bouillon of a diplococcus morphologically like the gonococcus and decolorizing by Gram's method, other cultures were negative. Pathologically irregular areas of necrosis were found on the articular surface of the femur, no pus was found. Microscopically no giant cells or other evidences of tuberculosis could be found. Sections stained for tubercle bacilli and gonococci were negative.

In addition to these two cases Dr. Hamann has excised the wrist joint for a similar condition.

DISCUSSION.

DR. F. BUNTS said that the existence of gonorrhea seemed to cause an increased liability to tuberculosis. The gross appearances of these two joint affections are very similar, but the microscopic examination will clear up the diagnosis. Most joint complications in gonorrhea occur within a month of the onset of the disease; the involvement of the hip is relatively infrequent. The operative results are very favorable and differ from those in tuberculosis by the wounds' healing readily without any troublesome sinuses.

DR. HAMANN said that medical treatment should first be tried, but the results were usually poor. If caries or ankylosis were present or if the patient was growing worse operation was indicated. Arthrotomy and antiseptic irrigation might be sufficient, but resection might be necessary.

DR. MARTIN FRIEDRICH read a paper on "How the Water Supply of Butler Became Infected," giving his conclusions from observations made on the scene.

Book Notices.

THE NATURE OF MAN. Studies in Optimistic Philosophy. By Elie Metchnikoff, Professor at the Pasteur Institute. The English Translation. Edited by P. Chalmers Mitchell, M.A., D.Sc., Oxon., Secretary of the Zoological Society of London. Cloth. Pp. 309. Price, $2.00 net. New York and London: G. P. Putnam's Sons. 1903.

This work, which has been widely noticed in the secular press and almost universally with favor, is a striking contribution of the day. The author needs no introduction to medical readers, but the present volume will probably be a revelation in some respects to most of them. It is the work of a biologist as well as that of a physician and bacteriologist, and the author accepts the most advanced materialism of the period. He begins by speaking of the discontent and uneasiness that exist throughout the world to-day, the desire for universal happiness and the failure thus far to find the right way to obtain it. Religion, he asserts, has failed, and man has developed into a condition where his organism is in many respects out of accord with Nature about him. He foresees a remedy for the present state of affairs in the general adoption of the teachings of exact science as a guide for human conduct. It might, perhaps, be questioned just what an exact science is in these days when the discoveries that are crowding on each other seem to overthrow our opinions of such solid facts as matter and such universal agencies as force. Science has not yet reached the point of absolute exactness nor do we feel depressed by the fact, as Professor Metchnikoff seems to be, that there are yet probably unsolvable problems before us. A large proportion of the work is given to the subject of "disharmonies," as he calls them, that are found in the human organism. Man, he says—and it seems to us somewhat of an assumption—is the result of a miscarriage of an anthropoid ape born before the complete development of simian characters and while the embryo was still in a stage in which the higher nervous centers most predominated. The reasons why the simian embryo should be more human before its complete development and extrusion are not very clear nor are they given here, but such seems to be a fact. Coming thus, as it were, unprepared on the world, Professor Metchnikoff seems to think it is only natural that man finds himself at many disadvantages. A sudden change in the natural conditions is brought about and, he says, a large series of organized disharmonies arise which become more acutely felt as man becomes more delicate and sensitive. The greatest disharmonies are those of the morbid nature of old age and the impossibility of reaching the instinct of natural death. Metchnikoff prophesies that many of these disadvantages will be overcome by the acquisitions of science and by the study of the human constitution. Human life will then be prolonged far beyond its present limit and death will come to the individual not as a dreaded event, but as one looked for and as altogether a natural process in his existence. It is a little remarkable that, with his rejection of religion throughout, he puts such apparent faith in the early histories of the patriarchs and their prolonged existence. Under the new arrangement he looks for, old age will have its functions, social and political, far beyond its present possibilities. It will not be a hardship or useless existence, but the crowning period of a useful life. The prospect is a very pleasant one, provided one accepts the author's views in their entirety. Most people, however, are so constituted that exact science does not seem to them a cure-all for the evils of life. They must look forward to something supernatural—as directing their future. Professor Metchnikoff's former master, Pasteur, was one of them, and yet he was none the less a scientific man. There is also something in the view that there is an eternal justice in the management of the universe, and that the evils that now exist are yet to be compensated for. No sociologic dreamer or scientific thinker has worked out—either on the basis of man's present organization or even on that of his future superior organization—a social system that will entirely do away with the difficulties that now surround him.

GYNECOLOGY. A Text-Book for Students and a Guide for Practitioners. By William E. Fryor, M.D., Professor of Gynecology in the New York Polyclinic Medical School. 163 Illustrations in the Text. Cloth. Pp. 380. Price, $3.50. New York and London: D. Appleton & Co. 1903.

The author of this volume is a practical man, and "practical" is the characteristic element that is in evidence throughout the work. The work is neither elaborate nor comprehensive, but deals in a concise and practical manner with "those subjects which are strictly gynecologic and on which a professor of gynecology usually has to lecture." The author does not consider it "the province of a gynecologist to illustrate the findings of the microscopist or of the anatomist," consequently he does not present the histopathology of the various affections, but treats of them only from what may be called a practical clinical point of view. The well-known views of the author concerning the vaginal route, and particularly early drainage through the posterior cul-de-sac, in acute infections of the pelvic organs are clearly brought out. The chapter on fibroids is especially good. In reading the work one can not fail to learn many useful and valuable points, and to be impressed with the earnestness and clearness with which the author at all times expresses his views.

INFECTION AND IMMUNITY, with Special Reference to the Prevention of Infectious Diseases. By George M. Sternberg, M.D., LL.D., Surgeon-General U. S. Army (retired), Ex-president of the American Medical Association. Cloth. Pp. 293. Price, $2.00. New York and London: G. P. Putnam's Sons. 1903.

The public is more than ever before inquiring regarding the cause and prevention of disease, and asking what can be done by individuals to ward off illness. The charlatan and quack understand this and prepare plenty of literature calculated

to bring people to them. It is well, therefore, that there is also a constantly increasing literature on health matters for the sensible inquirer, written by honorable and scientific men, and which is calculated to help rather than to injure those who read it. Sternberg's book on infection and immunity is one of the latest to be added to this class of literature. While the book is written for the layman, it is none the less scientific and reliable. Each subject is presented with the view of giving known facts as such, and unproved theories for what they are worth. The subject is presented in two parts. In the first, infection and disinfection, natural and acquired immunity, antitoxin, etc., are considered. In the second part, infectious diseases are discussed, twenty in all, each being given a special chapter. The methods of propagation and the best means of prevention of each particular disease are considered, including also statistical, historical, and other data. The keynote of the book is that all infectious diseases are preventable diseases and that it is now possible to carry out preventive measures in practically all of them. The book is one that the physician himself can read with profit, but especially is it one that he can recommend to his patients.

THE PREVENTION OF CONSUMPTION. By Alfred Hillier, M.D., C.M., B.A., Secretary of the National Association for the Prevention of Consumption (London). Revised by Professor R. Koch. With Illustrations. Cloth. Pp. 226. Price, $1.50 net. New York and Bombay: Longmans, Green & Co. 1903.

This is one of the many works called out in the present active crusade against the "great white plague." The author has already made himself some reputation by previous work on this subject. The introduction by Prof. Robert Koch is a recommendation that will go far to introduce the work to English-speaking readers. It covers the subject of prophylaxis and treatment of consumption in a concise and yet in a rather thorough way. The author's views are those which seem to be generally prevalent on the subject. He believes in the communicability of the disorder, and the counsel given can be safely followed. The work is a good one for popular circulation. As regards Koch's theory of the non-communicability of bovine tuberculosis, the author assumes a sort of middle ground, considering that while there are evidences in favor of the view there are also other cases where human infection can not be disregarded and the practical conclusion which he reaches that cow's milk should be boiled before consumption as a human food is certainly well on the safe side. As an exposition of the latest scientific views the work is to be recommended.

TREATMENT OF NEURASTHENIA. By A. Proust, Professor à la Faculté de Médecine de Paris, and Gilbert Ballet, Professor agrégé à la Faculté de Médecine de l'Hopital Saint Antoine. Translated by Peter Campbell Smith, L.R.C.P., L.R.C.S., Edin., L.F.P.S., Glasg. Cloth. Pp. 213. Price, $2.00. New York: Edward R. Pelton. 1903.

Smith has rendered a service to English-speaking readers by translating this well-known work of Proust and Ballet on this protean, but everywhere prevalent, disorder. The reputation the work has already earned abroad for its scientific presentation of the subject saves us the necessity of adding additional commendation. The author has tried to be as literal as possible in his translation, but has nevertheless rendered it into excellent English, and has preserved the clearness of the original French style. The size of the work is convenient, it is almost a pocket manual, and will be received with favor.

MODERN MICROSCOPY. A Handbook for Beginners and Students. Combining: 1. The Microscope and Instructions for its Use, by M. I. Cross. 2. Microscopic Objects, How Prepared and Mounted, by Martin J. Cole, Lecturer in Histology at Cooke's School of Anatomy. Third Edition. Entirely Revised and Enlarged, to which is Added 111 Microtomes, Their Choice and Use. Cloth. Pp. 292. Price, $1.50. Chicago: W. T. Keener & Co. 1903.

This book has been entirely revised. It covers the subject of microscopy, mechanism and management of the microscope and its accessories, and to a very large extent the methods of microscopic preparation. It is not essentially a medical work, but is one that may be useful to the physician as well as to the general student of biology. The illustrations are numerous, and in many ways elucidate the points made in the text. The publisher's part of the work is in every way commendable.

KING'S MANUAL OF OBSTETRICS. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C. Ninth Edition, Revised and Enlarged. Cloth. Pp. 628. Price, $2.50 net. Philadelphia and New York: Lea Brothers & Co. 1903.

That this text-book has passed through nine editions is sufficient evidence of its having given satisfaction to the medical public. Some changes have been made. The chapter on puerperal septicemia has been for the most part rewritten, and the author has made use of the work of others, as he acknowledges in his preface. The book is well up to date, and is a reliable, though a brief, treatise on its special branch of medicine.

A COMPEND OF DISEASES OF THE SKIN. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine. Third Edition, Revised and Enlarged. With 106 Illustrations. Cloth. Pp. 291. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co. 1903.

This third edition is practically the same as previous ones. We have stated our idea of the field in which quiz-compends are useful and, as such a work, this book is excellent. A great deal, of course, can not be expected in the portrayal of skin diseases by black and white illustrations, but these here given are fairly good.

PROSTATIC HYPERTROPHY, from Every Surgical Standpoint. By George M. Phillips, M.D., and Forty Distinguished Authorities. Edited and Compiled by S. C. Martin, Jr., M.D. Cloth. Pp. 176. Price, $1.75. St. Louis: Lewis S. Matthews & Co.

This little work consists of answers of numerous prominent surgical operators to a series of questions that were sent out by the editor and compiler, preceded by a brief sketch of the anatomy of the prostate and its physiology and pathology.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gonorrhea.

After reiterating the disappointments following the employment of drugs in the treatment of gonorrhea in former years, H. M. Christian, in *Med. Bul.*, states that the mistakes in the past in the employment of strong solutions of silver nitrate have been the cause of the production of the present valuable silver compounds, each containing a certain percentage of the salt, ranging from four to thirty per cent. In the author's opinion the best of these preparations is argyrol, it being the least destructive and irritating to the urethral mucous membrane. After treating fifteen hundred cases of gonorrhea with argyrol the author corroborates the statements that it is free from irritation, though used in solutions as high as twenty per cent.; the gonococci on and beneath the mucous membrane are rapidly destroyed; the amount of urethral discharge is rapidly lessened and the duration of the disease is cut short. Attention is called to the important fact that argyrol alone will not effect a cure, because there remains a catarrhal urethritis, after the gonococci have been destroyed, which demands a special line of treatment. He advises, in the early inflammatory stage, the following combination to relieve the subjective symptoms:

℞ Salol
Sodii brom.
Potass. bicarb. āā.....ʒss 15

M. Ft. chart. No. xxiv. Sig.: One every two hours.

At the same time he orders a 5 per cent. solution of argyrol to be used by the patient, as an injection, three or four times daily, the solution being retained in the urethra for ten minutes. It is advisable for the patient to wash out the anterior urethra with several syringefuls of warm normal saline solution just before injecting the silver solution. The author recommends this line of treatment for the first three weeks. After the subjective symptoms have subsided the local treatment in some cases may be substituted by the in-

ternal administration of copaiba and sandalwood. During the stage of decline an astringent injection is required, in addition to the silver solution, to benefit the mucous membrane, consequently the argyrol solution should be used at night and morning and the following injected three or four times during the day:

℞. Zinci sulph. ..... gr. x | 65
Bismuthi subcarb. ..... ʒii | 8
Liq. hydrastis (colorless) ..... ʒss | 15
Aq. destil. q. s. ad ..... ʒiv | 120
M. Sig.: Inject two drams three or four times daily; or:

℞. Zinci sulph. ..... gr. xii | 75
Plumbi acetatis ..... gr. xv | 1
Liq. hydrastis ..... ʒss | 15
Aq. destil. q. s. ad ..... ʒiv | 120
M. Sig.: Two or three times daily as an injection.

At the beginning of the fifth week, when only the morning drop remains and the urine contains shreds, the argyrol solution should be used at night, and through the day one of the following combinations:

℞. Acidi carbol. ..... gr. iv | 25
Zinci sulph.
Pulv. aluminis, āā ..... gr. xii | 75
Aq. destil. q. s. ad ..... ʒiv | 120
M. Sig.: As an injection; or:

℞. Cupri sulph. ..... gr. iv | 25
Aq. destil. ..... ʒiv | 120
M. Sig.: As an injection; or:

℞. Zinci chloridi ..... gr. iv | 25
Aq. destil. ..... ʒiv | 120
M. Sig.: As an injection two or three times daily.

Pruritus Ani.

The treatment of pruritus ani, according to C. J. Drueck in *Surg. Clinic*, depends on the cause. When no apparent cause presents itself locally, then the general condition of the patient must be inquired into. Anemia or tubercular trouble, if present, must be corrected. The diet must be looked into and excesses cut off, such as coffee, meats, alcohol, spices and condiments. Any derangement of the stomach, liver or bowels must be corrected if possible. Syphilis will sometimes produce a pruritus of the anus and will be removed by a course of mercury and iodids.

The local treatment, according to the author, should consist in cleansing and keeping the parts dry, preventing friction and relieving sphincter spasm. In these cases it is recommended that the sphincter be gradually and thoroughly dilated, thus relieving the hypertrophy of the sphincter muscle and the hypersensitiveness of the anal mucous membrane. The local use of preparations containing opium must be used carefully on account of the possibility of contracting the habit and also because it has a tendency to produce a general itching. To give temporary relief the following combination is recommended by the author in preference to other soothing applications:

℞. Camphoræ
Chloratis hydratis, āā ..... ʒi | 4
Ung. diachylon ..... ʒi | 30
M. Ft. unguentum. Sig.: To be applied two or three times daily after bathing the part. Relief may also be obtained by brushing the parts with silver nitrate grains ten (.65) to the ounce (30.) of water. Pain will be produced for a short time only after this application. If thread worms are present, injections of lime water or salt water usually suffice, but in severer cases santonin may be given. When due to vaginal discharges, douches of a 1-2,000 bichlorid or a 2 per cent. lysol solution may be used twice daily. In infants, due to a lack of cleanliness, the following combination, applied locally, is preferred:

℞. Acidi pierici ..... m. xlv | 3
Ung. hydrarg. nit. ..... ʒi | 30
M. Ft. ung. Sig.: Apply locally night and morning. General eczema is quite frequently the cause of this local condition. In such cases the tar preparations are of value. The parts may be bathed with a solution of alcohol and tar water. Or the following ointment may be used:

℞. Ol. picis liquidæ ..... ʒii | 8
Ung. belladonnæ ..... ʒi | 4
Acidi carbol. ..... m. v | 30
Adipis lanæ ..... ʒi | 4
M. Ft. ung. Sig.: Apply locally after cleansing the parts.

The parts should be bathed frequently in hot water and tincture of green soap, to remove the thickened scales and to deplete the local circulation. In severe cases the following may be used:

℞. Potassii hydratis ..... gr. v | 30
Aquæ ..... ʒi | 30
M. Sig.: Apply locally. In the moist variety of eczema the following combination is of service:

℞. Thymol ..... gr. ii | 12
Pulv. zinci stearat. ..... ʒiv | 120
M. Ft. pulvis. Sig.: Apply locally.

In eczema marginata the author recommends that the parts be thoroughly cleansed, dried and an application of dilute sulphuric acid applied. This treatment, though producing pain temporarily, soon gives relief. The tincture of iodin may be used in its stead. In neurotic cases a narcotic may have to be given, such as bromid or chloral, to produce sleep.

Drug Stimulation in Children.

For the purpose of stimulation in the treatment of disease in children the following preparations, according to Caillé, in *Post Grad.*, may be employed: Alcohol, camphor, strychnin, nitroglycerin, digitalis, ammonia. The cold douche may also be of service in effecting a reflex nerve stimulation. The heroic application of cold externally and in feeble children with poor circulation is, without doubt, detrimental. Consequently, whenever the child's extremities are cold and the temperature is high, a hot bath and enteroclysis is preferable treatment.

It is the opinion of the author that while alcohol can not build up the body it does serve as fuel for the body; at the same time it serves to stimulate respiration and consequently is of value in febrile diseases, and prolongs life. The amount of whiskey to be given in twenty-four hours may vary from dram one (4.) to ounces two (60.); Tokay wine, ounce one (30.) to ounces eight (240.), champagne, ounces two (60.) to ounces sixteen (500.). Mild stimulants, such as coffee, black tea and hot beef tea may be given in connection with or instead of alcohol. The following drugs may be used in the dosage given as stimulants:

Ether, drops two to six (.12-.40).
Camphor, grain one-fourth to one (.015-.06).
Infusion digitalis, one teaspoonful (4.00).
Spiritus etheris comp., drops two to ten (.12-.65), on sugar.
Aromatic spirits of ammonia, drops five to ten (.30-.65) in sugar water.

The following preparations can be given by the mouth, or subcutaneously:

Strychnin, gr. 1/50-1/30 (.001-.0024).
Nitroglycerin, gr. 1/100-1/50 (.0006-.0012).
Caffein and sodium benzoati, grain i to iii (.06-.20) every three hours.

When the stomach is not disturbed the following combination is recommended by the author:

℞. Pulv. camphoræ
Pulv. digitalis, āā ..... gr. i | 06
Acidi benzoici ..... gr. iii | 20
M. Ft. chart. No. iv. Sig.: One every four hours in sweetmeats or chocolates.

Timely and judicious stimulation is very important in the treatment of febrile diseases in childhood, but overstimulation is cautioned against, remembering that the reserve power in children can, as a rule, be depended on, except in malignant sepsis.

Stimulation by drugs is non-indicated as long as the pulse is full and strong, and in fact is injurious, but when the pulse becomes weak and compressible, and before it becomes intermittent, stimulation should be resorted to.

Bronchopneumonia.

In the treatment of bronchopneumonia in children, it is important to make the child as comfortable as possible, accord-

ing to Kerley in *Pediatrics*. Fresh air is necessary and the room should not be kept too warm. The jacket poultice and the cotton jacket should be discarded on account of the discomfort its gives the patient. The food should be easily assimilable and in infants the milk should be diluted. The author recommends steam inhalations impregnated with creosote (ten drops to the quart) as of great value. Counter-irritation with the mustard plaster is also of service. The internal treatment should be symptomatic. As expectorants in this disease the author prefers ipecac, tartar emetic with Dover's powder, to the ammonia salts. As a stimulant for the heart the tincture of strophanthus is recommended, alcohol being used only late in the course of the disease.

Medicolegal.

Support Required for Assertion of Hypnotism.—In the trial of the case of Austin vs. Barker, the daughter of the party suing testified, and it was asserted before the Fourth Appellate Division of the Supreme Court of New York, that the party sued, her alleged seducer, hypnotized her, and so made her unconscious of his unlawful acts with her at the time they were occurring, and that this condition of unconsciousness thereof continued until her father's attorney visited her nearly a year afterward, and again placed her in a hypnotic condition, through and by means of which her consciousness was so restored that it seized hold of events of which she had theretofore been unconscious. The court says that it does not feel called on to discuss or determine the rather shadowy boundaries of hypnotism, or its possibilities at legal trials in explaining what otherwise might fairly be considered as incredible. In this case, the witness did not for a period lose recollection of things theretofore lodged in her mind, with subsequently recurring memory, but through an alleged peculiar mental condition she became conscious of events of which she had never before been at all conscious. The court was, therefore, thrown back on the explanation and theory of hypnotism of the party suing, and it sufficed to apply to it the ordinary rules of evidence and common sense. That explanation was opposed to ordinary experience and knowledge. If, as explanatory thereof, he relied on some science and theory not generally known or understood, it was proper for him to give the jury the light of some competent evidence tending to sustain the probabilities, or at least possibilities, of what was asserted. Nothing of this kind was done on the trial, unless there may have been read then, as on this appeal, the unverified statements and opinions of certain authors. The court is unwilling to accept them, or the otherwise unconfirmed statements of the witness, that at certain times in 1900 she was placed in an hypnotic condition whereby she was made unconscious of certain events, and again in a similar condition in 1901 whereby she was made conscious of them.

Liability from Refilling Bottle Without New Label.—The Court of Appeals at St. Louis, Mo., affirms, in the case of Peterson vs. Westman, a judgment for $500 damages against a druggist for injuries sustained by the party suing in applying to a bruised finger carbolic acid, thinking it arnica. He had sent his son, 12 years old, to the drug store to get some arnica in a bottle which had a carbolic acid label on it. The boy testified that he asked for arnica. The druggist testified that the boy asked for carbolic acid, and he repeated after him, "Carbolic acid?" and the boy said, "Yes, sir." He also testified that the bottle had a fresh carbolic acid label on it. Other witnesses testified that the label was scratched and partly washed off when the bottle was sent for the arnica. The court says that the same label was on the bottle when it was returned as when sent to the druggist to be filled with arnica. The party suing saw the label on the bottle, and knew what it was, when he sent his son with it to the druggist for arnica. If he noticed the label when the bottle was brought back, he saw that no new label had been placed on it; that the bottle was in the same condition as when sent, except that it had been filled with what he supposed to be arnica. In these circumstances, the court does not think the label apprised him of the fact that the bottle contained carbolic acid. Had the druggist attached a new and fresh label, advertising the contents of the bottle as carbolic acid, and the party suing, without noticing the label, had used the acid or used it in disregard of the warning the label would have conveyed, his injury might be attributable, the court says, to his own negligence; but the label, under the facts of the case, did not advise the party suing of the contents of the bottle, and negligence could not be attributed to him for disregarding it. The court thinks it strange that a medical student who had recommended the use of arnica did not discover the mistake when he picked up the bottle and looked at it after it had been returned filled with carbolic acid, but it does not think that his negligence, if he was negligent, in failing to make the discovery, was an intervening negligence that precluded a recovery by the party suing, he being in no sense of the word the agent of such party, the latter not having employed him or even solicited his advice.

Liability of Health Boards and Officers—Destruction of Private Property.—The Supreme Court of Wisconsin says, in the case of Lowe vs. Conroy, that, in that state, boards of health or their members or officers may abate and remove nuisances, sources of filth, or causes of sickness without any hearing of the person charged with maintaining such nuisance, even though such proceeding necessitates the destruction of private property. Unquestionably, the statutes were framed on the fact that such boards must act immediately and summarily in cases of the appearance of contagious and malignant diseases, which are liable to spread and become epidemic, causing destruction of human life. Under such circumstances it has been held that the legislature under the police power can rightfully grant to boards of health authority to employ all necessary means to protect the public health, and to destroy private property when the emergency demands. The appearance of a malignant and contagious disease in cattle is in its nature such a menace to the public health as to bring it clearly within the class of cases which can only in many instances be effectually dealt with by the destruction of the animals afflicted. But this gives no right to destroy private property which in fact is no such nuisance or source of danger, and the owner can not be deprived of the right, either before or after such taking of his property, to have a judicial inquiry whether in fact he has forfeited the right to his property by coming within the condemnation of the law. In such cases, where a board of health has summarily destroyed property, the owner may bring his action to recover the damages sustained, if it be found he has been unjustifiably deprived of it. In the absence of judicial inquiry wherein the owner is given full opportunity to establish that no nuisance or cause of sickness exists as asserted, the board of health can not declare a thing a nuisance or source of danger to public health which is not so in fact. Again, the court says that it is the general rule that such officers as health officers are not liable in damages to private persons for injuries which may result from their official action done in the honest exercise of their judgment within the scope of their authority, however erroneous or mistaken that action may be, provided there be an absence of malice or corruption. But here the facts and circumstances showed that private property rights of the party suing had been unjustifiably invaded, and that, unless it be that the health officer sued and those who actually committed the trespass in wrongfully destroying his property were liable, he would be remediless in the law. Under such circumstances quasi judicial officers have been held liable to respond in damages on the ground that the exercise of this discretion is limited by the superior right guaranteeing to every person immunity from having his private property rights invaded except under the regular course of law, sanctioned by the established customs and usages of the courts. The discretion in which such officers are protected must be limited to the line where their acts invade the private property rights of another, for which invasion the law awards no redress other than an action against the one actually committing the trespass.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Titles of articles will be listed but once, though the articles appear later in other journals.

New York Medical Journal.

February 6.

1 *A Brief Review of the Etiology of Yellow Fever. (To be concluded.) James Carroll.
2 *Observations on the Quantity of Day and Night Urine. Charles W. Edmunds.
3 *Infantile Bronchitis. E. M. Sill.
4 *The Sanitary Needs of Panama. M. L. Maduro.
5 *A Suggestion for the Rapid Calculation of Percentage Milk Mixtures; with Description of a Mechanical Device for the Instantaneous Calculation of Such Formulæ. Thompson S. Westcott.

1. Yellow Fever.—Carroll gives the history of the discovery of yellow fever down to the conclusive investigations at Havana.

2. Day and Night Urine.—Edmunds finds the passing of urine to be about .67 during the day and .33 during the night. There may be considerable variation even up to equal amounts, but this is exceptional without decided disease. He tabulates a study of 56 cases, including cases of croupous pneumonia, scarlet fever, typhoid and renal and cardiac disease, and finds that the changes in certain cases from or toward the normal ratio are but expressions of the changes which take place in the patient's renal and cardiac condition, and may be used as an index to the progress of the patient. His results also confirm the earlier writers' views as to the nocturnal polyuria occurring in renal and cardiac disease, and point out the value of this fact as a diagnostic sign especially in cardiac disease. He also suggests the possibility of tracing the course of a nephritis or of a cardiac disease by observing the changes in the relative amount of day and night urine for short intervals at a time. When drugs which cause diuresis are administered during the day they tend to restore the normal ratio.

3. Infantile Bronchitis.—Sill describes the course of bronchitis in infants, and emphasizes the necessity of frequent and careful examinations of the changes found in the milder forms which may almost at once change to the severe. He condemns the use of remedies designed to allay the cough, as the indication is to get rid of the excessive secretions and not to have them retained. The question as to whether the cough is excessive or not is dependent on the ability of the lung to rid itself of the secretions in its bronchial tubes.

4. The Sanitary Needs of Panama.—Panama appears to be in a bad condition, and, according to Maduro, the conditions which exist there are largely avoidable. There is no good water supply and but a single imperfect sewer. The house drainage and plumbing are poor. He would advise the tearing down of the rookeries in which the very poor live, transferring their occupants to better built, lighted and ventilated buildings, however cheap. Other needs are an organized street-cleaning department, the opening up of the dark narrow streets to sunlight and the filling in of old vaults and cisterns, the appointment of a well-equipped board of health and the exercise and control of the milk supply, the prevention of food adulteration, and, lastly, strict quarantine regulations.

5. Milk Percentage.—Westcott describes a method of computing the milk percentage by two revolving disks superimposed on each other in which are openings reading on a still lower disk. By the proper use of this device an almost instantaneous method is obtained of determining the quantities of 16 per cent. cream, whole milk and sugar required to make any of the usual percentage formulæ for any quantity of total mixture.

Boston Medical and Surgical Journal.

February 4.

6 *Report of Cases of Trephining for Epilepsy. John C. Munro.
7 *Some Conclusions Based on a Study of 134 Cases of Calculus of the Ureter. With a Report of Three Cases. Benjamin Tenney.

6. Trephining for Epilepsy.—While he knows of no more discouraging field than the operative treatment of epilepsy by trephining, Munro still thinks that there is a certain class of unfortunates which can be helped in some way unexplainable. He does not, of course, refer to cases with recent palpable cranial depressions or new growths, but to those where there may be some unexpected lesion of the cortex, pia or dura, only demonstrated by operation or at autopsy. He thinks surgical relief for the cure of reflex disturbances from the viscera is rightly due the epileptic as much as to other individuals. In the cases reported several were temporarily relieved, but the outlook is not encouraging.

7. Calculus in the Ureter.—Three cases are reported and the subject generally discussed. Tenney sums up with the following conclusions as regards symptoms, diagnosis and treatment:

Intermittent pain on one side, with varying amounts of red blood in the urine, are constant symptoms of stone in the ureter.

Though the best means of locating stones, the *x*-ray can not yet give evidence sufficient in itself to warrant us in operating or refusing to operate on certain cases.

If a calculus starts from kidney to bladder, it is likely to catch within an inch of one of three places, all of which are accessible to the surgeon through extra-peritoneal openings.

A single calculus is the rule, but the exception occurs, according to these cases, about once in eight times.

The opening in the ureter or kidney pelvis for removal of the calculus should be sutured if possible. Both sorts of suture materials have been used with equally good results, and wounds in both locations apparently heal equally well. The recovery is only delayed if sutures are not used.

A calculus in the ureter is a menace not only to health, but to life, and its removal is an operation of low mortality, provided it is undertaken before secondary changes appear in the kidneys.

American Medicine, Philadelphia.

February 6.

8 *Purinemia: A Clinical Study. Reynold W. Wilcox.
9 *The Life-study of Patients, or the Biographic and Multiple Biographic Method of Discovering Medical Truth. George M. Gould.
10 *Morton's Painful Disease of the Toes. Walter G. Stern.
11 Abscess of the Liver, Caused by Distomum Sinense of the Intrahepatic Bile Ducts. Thos. L. Rhoads.
12 *Some Observations on the Occurrence of Nephritis in Infancy. Charles C. Bledsoe.
13 *Myxedema Complicated with Diabetes Mellitus Occurring in Two Children. Effect of Thyroid Extract on Both Diseases. Remarks on the Pathogenesis of Diabetes. Alfred Gordon.
14 Medicus et Medica. (To be concluded.) Helen MacMurchy.

8. Purinemia.—Wilcox considers that endogenous uric acid is chiefly concerned in gout and purinemia. The uric, as well as the phosphoric acid excretion is merely an index of retrograde metamorphosis of the body nucleins. Since the endogenous uric acid is independent of the presence of animal food in the diet, the patient should be limited only in quantity in order to reduce the intake to the organism's needs. The part played by the liver in gout is a purely negative one; it is unable to act as a poison filter. The keynote to the treatment lies in first limiting all toxic influences and formation of toxins, particularly in the alimentary canal, in order to minimize the retrograde metamorphosis of the body nucleins, preventing the absorption of toxic material and promoting its elimination.

9. Eyestrain, Etc.—This article by Gould is a general review of his series of clinical studies of the cases of Carlisle, Browning, George Eliot, Parkman, Wagner and others. He insists on the importance of bringing a large number of clinical life histories into comparison and producing, as it were, a composite photograph of the complete pathologic findings. This method, he claims, applied to his subjects previously discussed has yielded unexpected discoveries, and demonstrated a unity of cause and of diverse symptoms that was wholly unforeseen. Eyestrain is the great secret in all these cases. It has an irritant action on the nervous system, and is responsible for the manifold ailments of the illustrious characters he has described, the nervous irritability, the restlessness and the call for muscle action, etc., which was so marked in these cases and which relieved them temporarily. The necessity for systematic re-examination by specialists of all the bodily organs and functions throughout life is emphasized. Besides the scientific values of such repeated examinations, they would often reveal pathologic conditions and trends of profound value to individuals and families.

10. Morton's Disease of the Toes.—This disorder, the existence of which is denied by the French school, is explained by

Stern as due to a static condition of the transverse arch of the foot, quite analogous to flatfoot. It is mostly found in well-to-do persons, and is not noticed so much by shoe dealers of the ready-made article, but by those who make shoes to order. The symptoms are a sudden feeling of uncomfortableness in the ball of the foot, often accompanied by a snapping in the afflicted toe. Then an intense agonizing, burning pain radiating from the fourth metatarsal head or some other, through the thickness of the foot up the dorsum, causing faintness, cold sweats, etc. The tendency is to remove the shoe at once; the pain may last from one to forty-eight hours. The treatment proposed by Morton was excision of the afflicted joint, but the more recent authors advise the restoration of the foot to its normal position. Stern recommends the Whitman insole as especially useful. It is often a matter of the greatest nicety to find the proper amount of convexity and arch the foot out just to avoid the callus. In milder cases an adhesive plaster bandage around the ball of the foot will restore the arch. In his future cases he proposes to fasten pads of soft rubber to a flat German silver insole to give the much-needed elasticity not found in Whitman's plates. In very intractable cases incision may be required. A number of cases and a bibliography are appended.

12. **Nephritis in Infancy.**—Biedert says that nephritis in infancy is comparatively frequent, and emphasizes the following points:

1. The importance of examining the urine in all acute diseases of infancy, and especially in the bronchopneumonias.
2. The importance of marked anemia as the most pronounced symptom of kidney involvement.
3. Edema may or may not be present, but when it is present it constitutes a valuable sign, but there may be grave kidney involvement without edema.
4. There is almost always a diminished secretion of urine, the mother almost always noting that the baby wets fewer napkins.
5. There are almost always grave nervous phenomena and convulsions, which in some cases are probably uremic.

13.—This article appeared elsewhere. See THE JOURNAL of Feb. 6, 1904, p. 401.

Medical Record, New York.
February 6.

15 *Some Groups of Kidney Disease. Francis Delafield.
16 *Some Modern Views of Gastrointestinal Troubles and Their Treatment by Massage. Gustaf Norstrom.
17 *Practical Points on Hernia. F. D. Gray.
18 Orbital Cellulitis; Empyema of the Ethmoid Cells and the Frontal Sinus; Abscess of the Frontal Lobe; Pneumococcemia; Death. E. Groening.
19 *Unusual Sequela of a Submammary Hypodermoclysis. O. Paul Humpstone.

15. **Kidney Diseases.**—The groups of kidney diseases are rather elaborately described by Delafield. The first class is that occurring secondary to some infectious disease, with small quantities of albumin and few casts, and recovered from with ordinary attention. The only change in the kidneys is an epithelial degeneration. The prognosis is good, and no treatment is required. In a certain class of infections like influenza, scarlatina, diphtheria, yellow fever and acute yellow atrophy of the liver, a more serious form occurs which may produce permanent kidney destruction. Another important group of cases includes those caused by or associated with chronic endocarditis. The kidney disorders of pregnancy are noticed. They may be slight or otherwise, and in some cases are associated with cerebral symptoms which may develop without premonitory conditions. A number of different kidney lesions are described in connection with these symptoms, and in some of his patients Delafield has found well-marked disease of the cerebral arteries. Another group is that associated with anemia in young persons. As a rule, they get well without treatment; plenty to eat and outdoor exercise is what is required. Cyclic albuminuria has been sufficiently described elsewhere. Finally, there is a group of cases in which a primary nephritis runs a subacute course from the outset, occurring without discoverable cause, associated with headache, loss of appetite, dropsy, anemia, large amounts of albumin in the urine, etc. The course may vary. The patients may get well with damaged kidneys, susceptible to fresh attacks, or they may have a first attack leaving a very slow chronic process, or the first attack may be succeeded by a number of other attacks following each other at intervals of weeks or months, but each worse than the former one and eventually fatal. The most distressing cases are those that are severe and continuous, in which neither the nephritis nor the symptoms can be alleviated. The majority of the cases go on to an unfavorable termination.

16. **Gastro-intestinal Massage.**—Norstrom gives his experience with massage of the stomach, and concludes that it affects the stomach by influencing the glandular elements of the stomach, modifying the chemical action. It re-establishes the equilibrium in the components of the gastric juice, lowering them when excessive; raising them when deficient. It acts particularly on the "evolutif" troubles, in increasing and regularizing in a constant and manifest manner the evolution of digestion. The treatment of the dyspepsias, complicated or not, ought to aim to restore the chemical equilibrium, as well as the physiologic functions. In order to arrive at this, a strict régime is not always sufficient. It is besides necessary to reduce medication, which is far more harmful than beneficial here, to a minimum, and employ those agents which will re-establish the equilibrium interrupted, and supply by natural means the physiologic agents lacking. He thinks that many diseases of the stomach remain latent until the motility of the organ begins to suffer, though the condition of hyperchlorhydria is somewhat of an exception to this rule. Massage is not especially applicable to nervous dyspepsia, which is in most cases, Norstrom thinks, dependent on the systemic condition and only a manifestation of neurasthenia which should itself be treated. In gastralgia, however, he speaks of having had good success in some cases. The idiopathic form rarely fails to respond to treatment by massage. Gastroptosis is a condition which, according to his experience, is not amenable to massage. Absolute contraindications to massage are chronic ulcer and cancer, and he recommends Mendel's hammer as a means of discovering an ulcus ventriculi, showing pain over a sharply circumscribed area, continuing for a little while after percussion. As regards abdominal massage, he remarks that it has been considerably used, and the secret of success does not depend so much on the manipulation as on a thorough knowledge of the anatomic, physiologic and pathologic condition. The manipulations are like those of stomach massage, very simple, consisting only in frictions and, particularly, pétrissage or kneading. In massage of the stomach he places the patient on one side or the other, not on the back, and exercises energetic pétrissage. The secret of success is to possess a strong thumb. The failures by women masseurs are generally because they do not possess the requisite thumb strength. The best time for the operation of stomach massage is in the morning when the stomach is more or less empty, or in the afternoon, two or three hours after the midday meal. The length of the séance should be about fifteen minutes.

17. **Hernia.**—Gray calls attention to the rarer forms of hernia which are not always readily recognized, and emphasizes the following as a summary of the practical points of his paper:

Never forget the possibility of an unsuspected incipient or small hernia, as a possible cause of obscure abdominal symptoms or of obstruction.

Never practice taxis or delay operation in strangulated cases, nor neglect to open the sac and carefully inspect the contents.

Bear in mind the simple problem of radical cure—restoration of smooth flat peritoneum at the ring—and narrowing or closure of rings and canal—with peritoneum, aponeurosis, and muscle as building materials.

Transplantation of the cord is not an essential of the Bassini or of the Halstead method.

A successful operation on inguinal or femoral hernia dispenses with the necessity for even a temporary truss, but after cure of umbilical or ventral hernia a well-fitting abdominal supporter is a comfort.

Removal of the entire sac is not always necessary, and in the inguinal variety the distal portion is better left than to risk injury of the cord by a difficult and tedious dissection.

The radical operation is one of the safest and most certain in surgery, and on that account may properly be advised as a routine measure.

On the other hand, it should be remembered that in childhood all forms of hernia are usually curable by persistence in the use of a suitable truss, while after fifty-five the mortality rate increases, and as activity usually then decreases, a truss answers very well.

Finally young and middle-aged adults—especially males pursuing an active life—ought by all means to have the benefit of

an operation which carries practically no danger, relieves them from the discomforts and dangers incident to wearing a truss, and the inevitable, even if small, risk of strangulated hernia.

19. Submammary Hypodermoclysis.—The unusual sequel in the case reported by Humpstone was sinus formation and some sloughing of one breast. The fluid was apparently unabsorbed. The injection used was at 116 F. The conclusion from this experience, he thinks, should always be kept in mind: 1. Hypodermoclysis should, under all conditions, be given slowly and not too hot. Particularly is this true when, because of shock, the lymph sinuses are slow in absorbing the fluid. 2. If a "water boil" is formed it should be evacuated promptly to prevent the pressure from causing sloughing of the under surface of the breast, thus opening milk ducts which in a pregnant woman at least may secrete and delay prompt healing.

Medical News, New York.

February 6.

20 *Some of the Physical Properties and Medical Uses of Radium Salts; with Report of Forty-two Cases Treated by Pure Radium Bromid. Francis H. Williams.
21 *Late Results of X-ray Treatment of Sarcoma. William B. Coley.
22 Abdominal Versus Vaginal Hysterectomy. John B. Deaver.
23 The Occurrence of Tænia Nana in Texas. John T. Moore.
24 *Two Advantageous Procedures in Anesthesia Work; Report of Cases. Victor C. Pedersen.
25 Laboratory Aids to Diagnosis for the General Practitioner. Victor A. Robertson.

20. Radium.—Williams describes at length the physical properties of radium, and remarks that it is of less value in diagnosis than the *x*-rays, as it does not differentiate so clearly. As a therapeutic agent, he has employed it in 42 cases, 9 of skin disorders, 2 each of eczema and psoriasis, 4 of lupus vulgaris and 1 of acne. In eczema the success was not so good, though there was some improvement, and the *x*-rays were used. In psoriasis one exposure seemed to produce healing and in lupus the results were very satisfactory. In acne the results were also good. Of the remaining 33 cases, one was a case with two small keloids which has improved. One healed more rapidly by treatment under radium than the other under the *x*-ray. Two of the 5 cases of rodent ulcer were healed. Three showed great improvement. Of the 23 patients with epidermoid carcinoma, 11 have healed and 12 are improved. One of the cases had been steadily treated by the *x*-rays, but did not respond. This is the second case he has seen which was not relieved by them. The 4 remaining cases are breast cases, 3 of which were recurrences after operation and are improved, although some of them were not doing as well under the *x*-rays. This shows that radium is useful in treating some skin diseases and superficial new growths, including in this class those of the cervix uteri. He has endeavored to test separately the action of the different kinds of rays, isolating the beta and gamma rays, and has learned the thickness of the aluminum necessary to keep off the beta rays. The burning power, he thinks, is due to the beta rather than to the gamma rays. He finds that a much longer exposure with the gamma rays will not produce an irritation. He is still experimenting to see whether the gamma rays will be sufficiently curative in certain cases. Some of his tests are not yet finished, but they have demonstrated that the beta rays should not be employed with the gamma rays for certain deep-seated new growths. At the present time, he thinks, the indications as regards the therapeutic value of the *x*-rays and radium are much in favor of the latter, excepting that the advantage of the former is in being able to cover large areas. He says:

> In conclusion, my experience thus far teaches me that there is much similarity between the action of the radiations from radium and the *x*-rays; that if the results obtained by radium prove permanent, this new therapeutic agent will be largely used instead of the *x*-rays, but that the two will supplement each other.
>
> 1. Certain diseases promise to yield more readily to treatment by radium and others to the *x*-rays.
>
> 2. A disease that has attacked different parts of the body of a given patient may be better treated in certain regions by radium and in others by the *x*-rays.
>
> 3. It is quite possible that in some cases the two remedies used together on the same area and at the same sitting may accomplish better results than either alone.

21. X-Rays in Sarcoma.—Coley reports a number of cases and remarks that we are seeing the evil effects of too optimistic reports as to the value of the *x*-ray in cancer. A careful review of the reported cases and personal experience in more than 100 confirm and emphasize the convictions already expressed:

> 1. The use of *x*-ray in cancer should be limited to recurrent and inoperable cases, with the sole exception of small superficial epitheliomata of the face. Even here, I believe, the results of excision will prove to be better and more lasting, save in the proximity of the eyelids and nostrils.
>
> 2. It is most misleading to report as cures, cases in which malignant tumors have merely disappeared under the influence of the *x*-ray, since speedy return is the rule rather than the exception.
>
> 3. At the present moment there is no evidence to prove that any permanent cures have been obtained, save possibly in the case of rodent ulcer.

24. Anesthesia.—The two advantageous procedures described by Pedersen are first the use of nitrous oxid passing gradually into ether anesthesia, of which he details the method and the use of a new position for the patient in kidney operations. The usual manner of placing these patients on an Edebohls' bag involves the crowding of the root of the neck and the face more or less closely against the table. He avoids this by raising the shoulders from the table and resting them on a sandbag, bringing the pressure of the chest on the shoulders and upper sternum, and not on the base of the neck. With the shoulders thus elevated, the head can be freely moved in any direction and the jaw of the patient is absolutely under the control of the anesthetist. To avoid narrowing of the iliocostal space and thus decreasing the field of operation, he places other sandbags under the Edebohls' bag, thus securing proper flexion and torsion of the chest on the abdomen. He thinks this arrangement of the patient is better than any other that he has yet employed.

Cincinnati Lancet-Clinic.

February 6.

26 *The Diagnosis and Treatment of Some of the Common Fractures. Horace J. Whitacre.
27 Case of Bronchiectasis Following a Pneumonia which Complicated Typhoid Fever. J. T. Moore.

26. Common Fractures.—Whitacre describes his favorite methods with certain common fractures, especially Colles' fracture and Pott's fracture, fracture at the elbow, etc. Among the points that he specially makes are the frequency of fracture of the ulna and carpal bones in fracture of the wrist; the necessity for gaining complete reduction of Colles' fracture, particularly of outward displacement, before applying any splint, and the great value of strap plaster-of-paris splints in fracture at the wrist. These splints are made by him by taking a three-inch plaster roller, soaking it in warm water and rolling it back and forth on the table in superimposed layers, each layer being rubbed smoothly down on the underlying layer until a thickness of ten or fifteen layers is obtained. Two such strips are made of suitable length, a layer of cotton placed over them, and these applied to the wrist on the dorsal and anterior surfaces and bandaged firmly to the contour of the part with a gauze bandage. Then the arm is strapped to a board until the plaster has set, after which the board is removed. We then have a molded splint just suited to the contour of the arm, with the bones in position. He also emphasizes the imperative necessity for general anesthesia in the diagnosis and the first treatment of elbow fracture, and the value of the method of treating most elbow fractures in the position of acute flexion, which, however, is not to be a routine practice. He also insists on the necessity of extension in elbow fractures and the danger of supplying a support at the elbow. The existence of two fairly distinct forms of Pott's fractures are recognized. In one the joint has been subjected to a twist, and there is an oblique, almost marginal, fracture along the anterior border of the internal malleolus, or it escapes entirely and there is a laceration of the ligament. In the other case the internal malleolus will be broken off squarely at its base, and the tibio-fibular ligament ruptured and the fibula fractured directly above the malleolus. In this case forcible eversion of the sole is the direct cause of the fracture, in the other, the abduction of the foot. The uniform presence of external and posterior deformity and of three points of tenderness are the classic symptoms of Pott's fracture. It is treated to best advantage in a position of

flexion and adduction of the foot. The value of the strap (stirrup) splint of plaster of paris in the treatment of Pott's fracture is also specially insisted on.

St. Louis Medical Review.
February 6.

28 Report of Two Cases of Continuous Hot Water Irrigation in Pelvic-abdominal Sepsis with Remarks. Jabez N. Jackson.

Cleveland Medical Journal.
January.

29 *The Clinical Relations of Stomach Disorders in Diabetes. John P. Sawyer.
30 Observations on Dementia Precox. William H. Pritchard.
31 General and Special Methods in the Postmortem Examination of the Brain and Spinal Cord. Walter H. Buhlig.
32 The Passage of an Open Society Pin Through the Intestinal Canal of an Infant Nine Months Old. H. D. Peterson.

29. Stomach Disorders in Diabetes.—Sawyer reviews the opinions and gives experiences with cases of diabetes in which gastric lavage and other methods were employed with remarkable results. He feels justified, on the basis of clinical experience, to hold that instead of regarding stomach disorders as of trifling importance due to sugar in the blood and to be regarded lightly, stomach affections are in many cases likely to afford a point of attack by which a degree of relief from distressing symptoms and the prolongation of life and efficiency may be secured better than by general indifference to the significance of these disorders in diabetes.

New Yorker Medicinische Monatschrift.
December.

33 *Speicheisteine. (Salivary Calculi.) G. Schirmer.
34 *Ein Beitrag zur Behandlung des Asthmas. (Treatment of Asthma.) Carl P. Kremer.
35 Der Nutzen der Formalin-Lampe "Hygiea," insebesondere bei Keuchhusten. (Use of Formalin Lamp, Especially in Pertussis.) Dr. Sembritzki.

33. Salivary Calculi.—Schirmer describes these formations and speaks of the value of the *x*-ray in their diagnosis, though it has been decried by some recent writers. He gives illustrative cases of its use. With the diagnosis made, of course, the only treatment is operation. This should be done, as a rule, by way of the mouth; sounding of the duct is unnecessary. It is best to go directly to the foreign body and scoop it out with a spoon. Salivary fistula in the mouth is of no importance.

34. Asthma.—Kremer speaks favorably of the use of atropin in this disorder, recognizing, of course, the value of ether, amyl nitrite, nitroglycerin, etc., for the attacks; also morphin subcutaneously and the necessity for care as to hygiene, diet, etc. In his cases he begins with 1/120 gr. of atropin as near the beginning of the attack as possible, injecting it subcutaneously two and seldom three times in the twenty-four hours. He says by this treatment the generally long-lasting painful attacks will be quickly relieved and the exhaustive cough cease. Bronchial catarrh is favorably influenced, the emphysema disappears and the condition of the patient, mental, etc., rapidly improves.

Colorado Medicine, Denver.
January.

36 Osteo- and Rheumatoid Arthritis. B. C. Leavitt.
37 Cases of Congenital Dislocation of the Hip. Geo. B. Packard.
38 Incipient and Acute Insane. Recoverability and the Factors Therein. J. E. Courtney.
39 *The Treatment of Neurasthenia. Howell T. Pershing.
40 Tetanus Cured by Injecting Antitetanic Serum Into the Brain. I. B. Perkins.
41 Imperforate Anus with Vulvar Opening. Walter A. Jayne.
42 Radium. G. H. Stover.
43 Testing of Vision in Public Schools. Edward Jackson.
44 Testing of Hearing of Pupils in the Public Schools. Wm. C. Bane.
45 Tendon Losses. George W. Miel.

39. Treatment of Neurasthenia.—There is no specific for neurasthenia, according to Pershing. The resources for its treatment are limited to the use of remedies preventing loss of nervous energy, and prevention of emotional disturbances by reassurance and favorable suggestion; and inculcating the habit of muscular relaxation and repose, by limitation of work, prevention of toxic conditions, removal of peripheral irritations, reduction of cortical irritability by medicines, and securing sleep. Further, by remedies to increase the income of nervous energy by nutrition and drugs, as well as certain remedies used empirically like hydrotherapy, electricity, massage, etc., whose action is complex or obscure. Emotional disturbances are the most serious causes of nervous weakness, and they can be helped by removal of the ideas which produce them, especially by voluntary suppression of motor reaction to small annoyances and anxieties and the cultivation of attitudes and actions which express serenity and repose. The prohibition of work is an obvious remedy, but in many cases it is advisable to keep the patient doing a reasonable amount and removing as far as possible every cause of exhaustion. The relative importance of work and worry as causes must be carefully considered in every case, and everyone should cultivate some occupation to crowd out inopportune thoughts. Pershing finds the uric acid diathesis a very frequent complication of neurasthenia, and, therefore, to be met. Intestinal indigestion is another, and the excessive use of alcohol can only aggravate the condition. Tobacco is a milder sedative and can sometimes be allowed, though many do badly with it. The pain and annoyance due to disease in any part of the body may be a contributing cause, and even when shielded from direct irritating influences they can not always be excluded, hence the advisability of lowering the sensitiveness and irritable weakness of the cerebral cortex. Codein and opium in small doses are suggested, together with other remedies, such as strychnin and laxatives taken at different times, the patient being strictly prohibited from having any knowledge as to the ingredients of the prescription and the size and frequency of the dose of opium. The latter is only a last resort and should not be prescribed when it is not absolutely necessary. Sleep should be secured as far as possible without the use of hypnotics. When one is used it should be omitted every second or third night, and altogether discontinued as soon as possible. Food should be abundant and taken at short intervals, rich in nitrogenous and phosphorized articles, but any anxious attention to the diet does nothing but harm. Strychnia and small doses of calomel and intestinal antiseptics are often of service, but the main thing is that the patient should eat without apprehension. Pershing speaks unfavorably of the use of phosphorus compounds for sustaining the nervous energy. Iron, arsenic and strychnia are sometimes useful. Such remedies as electricity, hydrotherapy and massage he places last because he considers them of least importance. Any or all of them may be used, especially for their physiologic effect, as an adjunct to other remedies. The real difficulty in treating neurasthenia is not to get remedies that may be used, but to select and make effective a combination which best suits the particular patient. We must select and emphasize some methods and ignore others. For some the Weir-Mitchell rest cure is advisable and to others it may do harm.

American Journal of Obstetrics, New York.
January.

46 *Tarnier's Principle of Forceps Rotation in Occipito-posterior Positions. W. Reynolds Wilson.
47 Tuberculosis of the Female Genitalia and Peritoneum. (To be continued.) John B. Murphy.
48 *Fetal Heart Murmurs in Gravida with the Report of a Case. Horace G. Wetherill and J. N. Hall.
49 *Supravaginal Amputation for Fibroid Tumors. Herman E. Hayd.
50 *Movable Kidney with Secondary Cyst Formation, Resembling Ovarian Cyst. Rufus B. Hall.
51 The Chlorin Technic. Douglas H. Stewart.
52 *Veratrum Viride in Surgical and Obstetric Practice. Chas. L. Bonifield.
53 *Operations in Imperative Surgery in Private Houses: A Demonstration of Surgical Technic. Willis G. MacDonald.
54 Conservative Surgical Treatment of the Uterine Adnexa. Augustus P. Clarke.
55 *The Palliative Treatment of Cancer of the Cervix Uteri, with Report of Cases. Walter B. Chase.
56 *Abdominal Versus Vaginal Hysterectomy. John B. Deaver.
57 Remarks on Microbial or Mycotic Cystitis in Women. George T. Harrison.
58 *The Pelvic Musculature in Disease. Hugo O. Pantzer.

46. Forceps Rotation.—Wilson describes the mechanism of artificial rotation of the head in the occipito-posterior position, and remarks that the error in attempting to favor rotation of the head by the forceps by the usual method lies in the preconceived idea that in order to rotate the blades concentrically with the axis of the pelvis it is necessary to rotate the handles on their long axis. Tarnier has shown the dangers of this method, and that the blades will describe a cone of rotation,

the base of which is in the pelvis, and its diameter greater than the pelvic cavity. He recommends as a substitute for this the rotation of the handles in such a way as to permit them to describe a wide circle of revolution, leaving the tips of the blades as a fixed point. The mechanism of this is illustrated by Wilson, who remarks that the maneuver can be carried out as successfully with the Tarnier or Sympson forceps as with the ordinary obstetric forceps.

48. **Fetal Heart Murmurs.**—Wetherill and Hall report a case in which the fetal heart murmur was diagnosed before birth and attributed to congenital pulmonic stenosis.

49, 50 and 52.—See abstract in THE JOURNAL, xli, p. 980.

53.—Ibid., p. 981.

55. **Cancer of the Cervix.**—The method developed by Byrne of treating cancer of the cervix with the thermocautery is described here by Chase. The objections to the powerful chemical caustics are the pain they produce and the difficulty of limiting the area of destruction, but it is quite exceptional for the patient to suffer pain after the use of the thermocautery, provided the mucocutaneous surfaces are not seared or burned. He usually finds it easy to protect the vaginal surfaces by the use of strips of asbestos paper of proper size. With large areas of ulceration the curette may be first used, and may cause considerable hemorrhage, but this is controlled by adrenalin or pledgets dipped in dilute acetic acid, applied with pressure. After this the cautery knife is applied at a dull red heat until the surfaces are thoroughly charred. The after-dressing consists of a 5 per cent. iodoform gauze, reapplied daily, after cleansing of the parts with peroxid of hydrogen. Great gentleness in manipulation is necessary, and the use of the bivalve speculum should be avoided. The Sims speculum and the Sims position are usually the best, the only exception is where the posterior vaginal wall is involved. The slough usually separates in one to two weeks. Dressing should be daily until healing follows, or, should it fail, the part should be kept as aseptic as possible. As in granular surfaces generally, the recognized healing power of nitrate of silver must not be forgotten. In some cases the thermocautery may have to be repeated at intervals of several months. He gives cases illustrating the results of treatment, and remarks that this method is not suggested to supersede radical treatment, but rather as applicable in postoperative cases on recurrence, in cases which have passed the stage for successful attack, or if the patient refuses heroic treatment.

56. **Hysterectomy.**—Deaver favors the abdominal route as offering increased space for manipulation, greater security against hemorrhage and less chance of injuring the ureters. He does not think it necessary to dissect out the iliac glands, as the additional mortality from the operation is not balanced by the lessened liability to recurrence. His technic is that of others, with slight modifications.

58.—See abstract in THE JOURNAL, xli, p. 980.

Annals of Surgery, Philadelphia.

January.

59 *Removal, After Suprapubic Cystotomy, of the Prostate and of the Prostatic Urethra for Senile Enlargement of the Prostate. B. G. A. Moynihan.

60 *Intestinal Perforation in Typhoid Fever. Richard H. Harte and Astley P. C. Ashhurst.

61 The Mixed Tumors of the Salivary Glands. (To be continued.) Francis C. Wood.

62 Excision of Tuberculous Mass from Liver. Robert H. Rome.

59. **Removal of the Prostate.**—During the past two years Moynihan has operated on 12 cases for removal of the prostate and the prostatic urethra. His first operation was done in 1901, and was in a measure accidental. He was somewhat fearful that the ultimate issue of the operation would be unfavorable, but the results were good. The operation is performed suprapubically, a provisional stitch securing the opened bladder to the parietes on each side; the prostate being pressed upward by rubber-gloved fingers in the rectum, while the stripping is done with the finger of the other hand through the suprapubic opening. The operation is an easy one if done under proper conditions. The catheter is passed after the removal of the organ, and the bladder freely flushed with hot, sterile saline solution or a hot 1 per cent. solution of carbolic acid. When the fluid returns almost clear, a large rubber tube is passed into the bladder, and a couple of stitches introduced into the wound. There are often severe paroxysms of pain for a few hours after the operation, but they are relieved by morphin. At the end of forty-eight hours the tube is removed from the bladder, and the patient allowed to sit up with a bed rest. On the fourth day and each succeeding day a catheter is passed and the bladder freely washed with dilute carbolic acid lotion. On the seventh day the catheter is tied in and a drag placed on the suprapubic wound, which is removed every morning and the bladder again flushed. The catheter is not removed for five or six days; a new one is then introduced. The patient is allowed to get up and sit in a chair at the end of the first week if he is a feeble old man. The urine ceases to come through the wound about the end of the third week, and at the end of the fourth or occasionally not until the end of the fifth, the patient is passing urine spontaneously at natural intervals and the wound is entirely closed. If there has been a cystitis, he orders urotropin or helmitol, 10 to 15 gr. doses three or four times daily. He tabulates his twelve cases.

60. **Typhoid Perforation.**—Harte and Ashhurst's review is complete. They consider that perforation occurs in an average of about 2 per cent. of cases. They analyze statistics as to location. In over 73 per cent. of 190 cases where the site was mentioned, it occurred within twelve inches of the cecum and in only 4 cases more than three feet distant from the ileocecal valve. The authors conclude that operation rarely hastens death, and the proportion of cases that finally left the surgeon's hands well was 26 per cent. The rarity of recovery without operation does not justify any other course than laparotomy. General anesthesia is usually justifiable, and rapidity of operation is important. The incision is best made to the right of the median line, over the cecal region, and need not average more than four inches, though with very fat abdominal walls it may have to be extended from the edge of the ribs to the symphysis. The authors prefer the incision through the outer half of the right rectus muscle; it is straight, simple, avoids better the deep epigastric artery, and the cecum is more readily located. Excision of the ulcer they consider useless and harmful. Black silk is the best material for intestinal suture. They usually prefer a row of mattress sutures parallel to the long axis of the gut, crossing the longitudinal Peyer's patch at right angles. A second row of Lembert sutures, likewise applied longitudinally, but continuous, is also employed, and these are usually sufficient. They avoid sutures transverse to the long axis. The toilet of the abdominal cavity should be thorough to combat the peritonitis, and a large tube half an inch in diameter, with multiple perforations, should be introduced through the wound, a rubber tube and a funnel being attached to its outer end, and through this should be poured gallons of hot solution. The success depends more on the quantity than the quality. The temperature should be at least 110 F. The tube should be carried around to the various parts of the abdomen so as to thoroughly irrigate every portion, and the douching continued until the return fluid is clear. Drainage is necessary in nearly every case. They prefer gauze drainage, but see no advantage in the iodoform or medicated gauze. Hyperdermoclysis or intravenous infusion is wise. Nourishment must be given, but all food by the mouth avoided as long as possible. After twenty-four hours a teaspoonful of hot water may be given by the mouth every ten or fifteen minutes, but no food until the third or fourth day at least, nutritive enemas being continued. After the third or fourth day the surgeon should begin to think of removing the gauze drains, but there is no hurry, and they can be allowed to remain longer if there is any doubt. They should be well moistened with salt solution or hydrogen peroxid and given time to absorb it, and the utmost gentleness be used in removing them. When the gauze has been removed it requires nice judgment to know how much to replace; a residual abscess on the one hand and slowness of healing on the other, are to be avoided. A fecal

fistula is not of bad prognosis, though it delays ultimate recovery. Finally, he mentions exploratory laparotomy, and thinks it never is the cause of death and is to be recommended in all doubtful cases of this kind. A full statistical summary and list of the published cases is given at the close of the article. The total number is 362, the mortality 74.03 per cent. The cases are classified in a large number of groups to show the influence of age, sex, interval, etc.

Journal of Nervous and Mental Disease, New York.
January.

63 *Contrary Actions. A. Pick.
64 *A Case of Aphasia with Loss of Memory of Nouns (Sensory Anomia) with Autopsy. Charles L. Dana and Joseph Fraenkel.
65 *Bony Sensibility. Philip C. Knapp.
66 *Optic Neuritis of Unknown Origin. Howell T. Pershing.

63. Contrary Actions.—Pick first notices Weir Mitchell's recent paper on this subject, abstracted in THE JOURNAL of April 25, 1903, p64, p. 1171, and claims that the condition in some of its types is not so rare, at least in Europe. He considers that several different factors underlie it. He gives a rather long report of a case in which the condition was apparently dictated by delusions of a higher influence. A number of other cases exist in the literature which appear to agree with the one here reported. The cases of Mitchell's first class, in which there are disturbances of conception, and conception of the contrary involuntarily leads to contrary action, can be further subdivided depending on whether a delusion or imperative idea is at the bottom of the condition. He also refers to cases where disturbances are purely in the motor field, and to mirror speech which comes under the head of aphasia as a result of gross brain lesions, and yet stands in close relation to the disturbance of mimics in which the patient, instead of denying, affirms, and vice versa.

64. Aphasia (Sensory Anomia).—Dana and Fraenkel end their discussion of the case here reported with the following conclusions:

1. There is no special center for naming. There is an important station in the sensory mechanism for naming concrete things, and it lies in the first and second temporal convolutions, and this is a center for sensory anomia. 2. Sensory anomia is a form of aphasia characterised by inability to name things seen, and often things heard, felt, tasted or smelled. Its especial character can be indicated in particular cases, by the terms optic, optic and tactile, etc. 3. The use of anatomical terms, such as cortical and subcortical, to indicate psychological processes, is not a very practicable or rational procedure; and it would be better to drop the words cortical and subcortical in describing aphasias. In the present case there was what would be called a subcortical aphasia with a lesion mainly cortical.

65. Bony Sensibility.—Knapp concludes that bony sensibility seems to be an independent form, having no relation to other types of sensibility. The course of the fibers that convey it is uncertain, but that it gets to the cord by the peripheral nerves is shown by the cases reported. The chief significance of the symptom seems to be that it throws some new light on the development of arthropathies and spontaneous fractures in tabes and syringomyelia, as showing the sensory condition of the bones and their insensibility to injury, and also as indicating that one more sensory factor must be taken into account in studying the co-ordination of movements.

66. Optic Neuritis.—Three cases are reported by Pershing, in two of which he thinks an aural suppuration had perhaps some causal relation to the optic neuritis. In the third case, which occurred in a young girl, without any apparent cause, he could give no opinion that seemed to have any probability. Even the supposition of an unknown toxemia was not entirely free from objection, for any symptoms other than optic neuritis that might be attributed to intoxication were present but a limited time, and could be accounted for otherwise.

Wisconsin Medical Journal, Milwaukee.
January.

67 *The Lymphatic Constitution. W. H. Sheldon.
68 Congenital Demonstration of the Viscera Diagnosed During Life and Demonstrated by Autopsy. Death from Aortic Aneurism. F. C. Studley.
69 *Albuminuria in the Apparently Healthy. Wm. H. Washburn.
70 *Vesical Calculi—Report of 15 Cases. Reginald H. Jackson.
71 Diagnosis and Treatment of Some of the Inflammatory Conditions of the External Ear. Gilbert E. Seaman.
72 *Ethyl Chlorid as a General Anesthetic. F. Pfister.

67. The Lymphatic Constitution.—Sheldon sums up his deductions on this subject thus:

1. A condition, the so-called lymphatic constitution, does exist. 2. Sudden deaths are apt to occur in such subjects due to reflex paralysis of the heart, made possible by an abnormal irritability of the nervous system. 3. The enlarged thymus, usually found in these cases, is only one phenomenon of the general disturbance of nutrition, and only in very rare instances causes death by any local pressure either on vessels, nerves or air passages. 4. The condition is of importance from a therapeutic, prognostic and medicolegal standpoint.

69. Albuminuria.—Out of 7,500 uranalyses made in seventeen years of life insurance examinations, Washburn finds albuminuria in 288 of the subjects, making a percentage of 3.44. Of the total number with albuminuria, 35 had evidences of other disease, and of the remainder, 70 had been entirely lost sight of. There remain 153 whose history has been followed up, and of these 6 have died, 2 from tuberculosis, 1 from pneumonia, 1 from paralysis ten years after examination, and 1 from acute Bright's disease four years later. In the other the cause was unknown, but there was a marked tuberculous family history. The history of the cases ranges from over a period of fifteen years down to a few months. It is impossible, of course, to say what the mortality rate would have been normally among these 153 men. The average age at examination was 40 years, and they might therefore be expected to furnish a mortality rate of 9.7 per thousand per annum, or for the 153 cases given, a mortality of 1.4. If we average the years that have elapsed and suppose they all had a record of seven years, they accordingly might have supplied 9 or 10 deaths. As a fact, however, only 6 deaths have occurred, and this is below the expectation of the American experience table. But if we include the other 35 cases and draw conclusions from the results thus obtained, the outcome will be quite different. The annual mortality rate would be about 1.81 for the total number of 188, and for the seven years the total expected deaths would be 12 or 13, whereas the total of deaths has been 17, which is in excess of the expectations. It would appear that the inclusion of cases presenting other evidences than albuminuria, clouds the question of prognosis. The subsequent history of the 147 remaining cases is interesting; 47 of these have a history not extending over a period of more than six years, and 100 six years or less. Of the 47, 13 are living in good health, recovered from albuminuria; 10 are apparently healthy; 3 in poor health and the remaining 21 are in apparent good health, but the condition of the urine is not known. Of the 100 with a history of less than six years, 14 are still suffering from the condition, though otherwise apparently healthy, and the remaining 84 are apparently healthy, but the condition of the urine is unknown. So far as these cases warrant conclusions, they would be in the direction of a less unfavorable prognosis than has generally been entertained. As to the effect of treatment he has not much to say; in many of his cases it has been discouraging.

70. Vesical Calculus.—From a study of 15 cases, Jackson thinks the lesson to be learned is that we should never be content with a diagnosis of cystitis. In reality it is often only a symptom of prostatic hypertrophy, vesical calculus or neoplasm, disease of the ureter or kidney. The large size attained by some of these calculi and the long periods of suffering are not encouraging to our diagnostic ability. Yet the diagnosis is not so much a matter of skill as of simple and thorough examination in a large number of cases. As regards operation he prefers the perineal to the suprapubic route when feasible.

72. Ethyl Chlorid.—Pfister strongly recommends ethyl chlorid as a general anesthetic, holding that it is efficient in all ages, but preferable in young subjects and in minor surgery. It is contraindicated in major operations requiring total muscle relaxation for an indefinite length of time, and where expense is a material item. Lowered vitality is of less consequence than with other anesthetics. The excitant stage is usually absent; the pulse is but slightly affected; cyanosis, headache, kidney, heart and lungs impairment are absent. A small quantity is sufficient—5 to 10 c.c. No particular training is necessary, as is the case with other anesthetics. The expense is

slightly greater; 90 to 95 per cent. of the anesthesias are successful and failures occur only in adults. He thinks it is safer by far than chloroform or ether. His opinions are based on the experience of v. Hacker and Lotheisen in their Innsbruck clinic. In the discussion following the article Dr. Thienhaus challenges him on his statement as to the safety of ethyl chlorid as a general anesthetic.

Southern California Practitioner, Los Angeles.
January.

78 *Some Complications and Sequelæ of Typhoid Fever. W. P. Millspaugh.
74 Sequelæ of Gonorrhœa in the Female. O. J. Kendall.
75 Movable Kidney. W. W. Beckett.
76 Prevention of Tuberculosis in Children. Charles C. Browning.
77 Babyhood and Childhood—Influence on After Life. Robert L. Doig.

73. **Complications of Typhoid Fever.**—Millspaugh reports a case of mistaken diagnosis of typhoid perforation where the symptoms were probably due to diaphragmatic pleurisy or subsequent pneumonia; also another case with subcutaneous emphysema of the face, neck, chest and arms and gas bacillus isolated from the tissues. As regards hemorrhage he thinks the best treatment is absolute rest, almost complete starvation for a time and putting the patient under the control of morphin, the use of continuous cold to the abdomen and the administration of suprarenal extract or its equivalent. Lastly, he speaks of typhoid sepsis, which he thinks is not sufficiently discussed in text-books, especially as regards its diagnosis. He calls attention to the character of the temperature; a septic rise may come after or before complete defervescence, and is of the septic type with morning drop and afternoon rise. Chills and sweating are more frequent than with the other causes of fever, and the examination of the blood is of great assistance as excluding malaria. The presence of leucocytosis indicates sepsis, though its absence is not conclusive. Ehrlich's diazo-reaction reappearing points to relapse or recrudescence as against sepsis, as does also an appreciable enlargement of the spleen. The general appearance of the patient is of some importance. He is comfortable, not apathetic and he is hungry. Finally, we must exclude all tangible causes for fever such as abscess, periostitis, pneumonia, etc. For the treatment of sepsis, he says, begin with solid food when the temperature due to the typhoid proper has disappeared, not more than a teaspoonful of scraped beef the first day, and getting the patient out of bed. The scraped beef will be found the best of stimulants, and the sitting up the best of tonics.

International Medical Magazine, New York.
December.

78 The Use of High Frequency Currents in the Treatment of Some Affections of the Digestive Organs. G. Herschell.
79 Milk as a Food. John M. Taylor.
80 Curious Instance of Inflammatory Dislocation of the Pelvic Viscera. W. A. Newman Dorland.
81 *Salol as an Antirheumatic. G. Morton Illman.
82 Peritonsillar Abscess. E. B. Gleason.
83 *What Shall We Do with the Stammerer? G. Hudson Makuen.

81. **Salol in Rheumatism.**—Illman recommends the use of salol in rheumatism where the regular salicylates have failed to give relief. It should also be given in acute cases as soon as the diagnosis is made to secure its combined antipyretic and antirheumatic effects. In chronic cases a dose of 20 to 40 grains daily, intermitting one day in three, is advised. It can be given only where the kidneys are fairly healthy, and never in large doses continued over long periods. He does not believe in a circulatory depression caused by the drug, or at least considers it not very appreciable.

83. **Stammering.**—Makuen criticises the institutions that advertise to cure stammering, claiming that they are inefficient, unscientific and purely money-making institutions. The treatment should be kept in the hands of the medical profession.

Medical Fortnightly, St. Louis.
January 25.

84 Environment, Hygiene and Climatic Effects in Amputations. Thomas H. Manley.
85 Rupture of the Recto-vaginal Septum in the Young. A. H. Meisenbach.
86 Contribution to Renal Pathology and Etiology. Henry Jacobson.
87 Specimen of Angio-myoma of the Uterus. Francis Reder.

Medical Age, Detroit.
January 25.

88 Tuberculosis in Our Public Institutions. John S. Turner.
89 Ocular Therapeutics. A. W. Calhoun.
90 Catarrhal Laryngitis: Tertiary Ulceration of the Epiglottis. Samuel G. Dabney.
91 Fibroma of the Arm. J. Garland Sherrill.

American Practitioner and News, Louisville.
January 1.

92 Chronic Pneumonia, Fibroid Phthisis, Induration of Lung, Sclerosis of Lung, Pulmonary Fibrosis. Ed. Smith.
93 Catarrhal Pneumonia. J. L. Atkinson.

Southern Practitioner, Nashville, Tenn.
February.

94 Medicine, Philosophically Treated. Geo. H. Tichenor, Jr.
95 Myocarditis—A Clinical Study. Thompson Anderson.
96 Some Views of Shock in Abdominal Operations. J. A. Gaines.
97 Headache and Backache of Menstruation. Charles A. Dunham.

Journal of Comparative Neurology, Granville, Ohio.
December.

98 The Rate of the Nervous Impulse in the Ventral Nerve-cord of Certain Worms. O. P. Jenkins and A. J. Carlson.
99 Notes on the Technic of Weigert's Method for Staining Medullated Nerve Fibers. Oliver S. Strong.
100 Doctrine of Nerve Components and Some of Its Applications. C. Judson Herrick.
101 Columella Auris and Nervus Facialis in the Urodela. B. F. Kingsbury.

Louisville Monthly Journal of Medicine and Surgery.
February.

102 Tuberculosis of the Peritoneum. Lewis S. McMurtry.
103 Some Clinical Observations in Intestinal Surgery. Ap Morgan Vance.
104 Carcinoma and Sarcoma of the Bowel. J. Garland Sherrill.
105 Some Points in the Surgery of Acute Mastoiditis. J. Morrison Ray.
106 Impressions from European Dermatological Clinics. M. L. Ravitch.

Illinois Medical Journal, Springfield.
February.

107 *Abdominal Pain in Pleurisy and Pneumonia. James B. Herrick.
108 Alimentary Putrefaction. J. W. Hensley.
109 Dislocation of the Tarsal Bones Anterior to the Astragalus (Sub-Astragaloid), Together with a Partial Rotation of the Astragalus on Its Axis. J. F. Percy.
110 Modern Medicine. W. K. Newcomb.
111 Puerperal Septicemia. P. O. Carrico.
112 Conservative Surgery with Presentation of Case. John Weir.
113 Typhoid Fever. W. S. Jones.
114 Typhoid Fever. C. L. Kerrick.
115 Remarks on Diagnosis of Tuberculosis. Roy F. Rogers.
116 Appendicitis from the Standpoint of the General Practitioner. W. J. Fernold.
117 Transportation of the Injured. I. L. Firebaugh.
118 Obstipation with Complications. J. W. Evinger.
119 Historic Relations of Faith Healing. C. Barlow.

107.—This article appeared in THE JOURNAL, xli, p. 535.

Texas Medical News, Austin.
January.

120 Specialism and the General Practitioner. M. M. Pool.
121 Uncinariasis. G. A. Moeller.
122 Artificial Abortion. B. F. Brown.
123 Diphtheria Antitoxin in Membranous Croup and Diphtheria. T. M. Harrell.

Oklahoma Medical News-Journal, Oklahoma City.
January.

124 Country Surgery. W. B. Pigg.
125 Tunica Serosa Ureteris. Peritoneal Coat of the Ureter. Byron Robinson.

New Orleans Medical and Surgical Journal.
February.

126 Some Observations on the Anatomy, Physiology and Repair of the Pelvic Floor. Geo. H. Lee.
127 Gonorrhœa in Women. C. Jeff Miller.
128 Some Observations of the Treatment of Accessory Sinus Disease. Gordon King.
129 Frontal Sinusitis a Cause of Accommodation Paresis. H. Manning Fish.

Clinical Review, Chicago.
February.

130 Fractures and Dislocations of the Bones. Frederick C. Schaefer.
131 Report of a Recurrent Keratitis Following La Grippe. F. W. Kettlestringe.
132 The Diagnosis and Treatment of Diseases of the Throat in Children. (Concluded.) N. Filatov.

Medical Herald, St. Joseph, Mo.
January.

133 Arizona in the Treatment of Tuberculosis. Henry H. Stone.
134 Why Doctors Have Dyspepsia. William F. Waugh.
135 Embolism and Thrombosis. A. L. Gray.

136 Diagnostic Significance of Enlarged Spleen. Leroy Crummer.
137 The X-ray in Treatment of Malignant Diseases. John P. Lord.
138 Treatment of Acute Pelvic Inflammation. Palmer Findley.
139 Indications for Operation in Acute Pelvic Inflammations. A. P. Condon.

Mississippi Medical Record, Vicksburg.
February.

140 Ethics Again. B. F. Duke.
141 A Continued Fever Not Typhoid. R. Franklin Nimocks.

Kansas City Medical Record.
January.

142 Infant Feeding. Tom Fields.
143 The Form of the Ureter from Paraffin Casts. Byron Robinson.
144 Solution of Adrenalin Chlorid in the Treatment of Shock and Hemorrhage. Harry H. Everett.

Woman's Medical Journal, Toledo.
December.

145 Case of Pregnancy Following an Operation in Which Right Ovary Was Removed, Left Ovary Resected, and the Round Ligaments Shortened Intra-abdominally. Anna M. Braunwarth.
146 A Hexadactylic Fetus with Omphalocele Non-reducible, with Hydramnios: Report of Case. Emma L. Braunworth.
147 Pregnancy Complicated by Diabetes Insipidus; Report of Case. Alice Conklin.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Annales des Mal. Génito-urinaires, Paris.
Last indexed XLI, page 986.

1 (XXI, No. 12.) *Détails de technique dans l'application du "divisor gradué." Interprétation des resultats. F. Cathelin.
2 Anatomie pathologique des cystites algues. B. Motz and P. Denis.
3 Extraction d'un fetus de 3 mois de la cavité vésicale. B. Guisy (Athens).
4 (No. 11.) *Traitement des plaies du rein (kidney injuries). A. Boari.
5 *Cystoscope rétrograde universel. F. Schlagintweit (Munich).
6 Prostatectomie périnéale. Tédenat.
7 2 cas de perméabilité congenitale de l'uraque. B. Guisy.
8 Observation de cystocèle crurale chez l'homme. R. Sorel.
9 (No. 14.) *Diagnostic des calculs du rein et de l'uretère. F. Guyon.
10 *Curabilité de la tuberculose vésicale. B. Motz.
11 (No. 15.) Affections chirurgicales des organes génito-urinaires. V. Stanogenesky (ten years at Ratimoff's clinic).
12 Dilatateurs à 4 branches de construction perfectionnée. A. Kolimann (Leipsic).
13 Portable Slab and Leg Rests, etc., to Take Place of Operating table. E. Loumeau (Bordeaux).—Plan opératoire portatif à volume réduit (remplaçant les tables à opérations).
14 (No. 16.) *L'ablation de l'urètre antérieur avec urétrostomie vaginale. F. Legueu and P. Duval.
15 *Les cystites chroniques. B. Motz and E. Montfort.
16 Des interventions intra-vésicales avec le cystoscope du Pr. Nitze. Eynard.
17 Batteries or Storage Batteries. L. Imbert. Piles ou accumulateurs.
18 (No. 17.) *Traitement de l'urêthrite totale blennorrhagique par l'ichthargan. (Oltramare's clinic, Geneva.) P. Rychner.
19 Considerations générales sur le traitement des inflammations blennorrhagiques. A. Lewin.

1. Interpretation of Findings with Urine Divisor.—Cathelin enumerates several points learned by study of the results of the use of his "intravesical graduated divisor." In 50 cases it demonstrated that the symptoms observed could not be referred to the kidneys, but were due to some neighboring organ. He found that cystitis did not render the urine turbid when the kidneys were sound and the urine was withdrawn at once. In 3 out of 12 cases of hematuria, each kidney emitted bloody urine. In 10 cases of movable kidney the proportion of urea was less in the urine from the much-displaced organ.

4. Treatment of Wounds of the Kidney.—Boari's experience in the clinic and in experiments on dogs has convinced him that the kidney is remarkably tolerant of injuries such as stab wounds. Surgical intervention should, therefore, be conservative. The most serious injuries are those in which the pelvis is involved, as repair proceeds less rapidly and effectually in the tissues of the pelvis.

5. Retrograde Cystoscope.—Schlagintweit's instrument has a small reflecting prism between the light and the lenses. This prism fits in the shaft of the cystoscope. After the instrument has been introduced into the bladder, the prism can be raised out of its bed to any height desired, and reflects into the lens the parts of the bladder interior not visible by direct inspection.

9. Diagnosis of Calculi in Kidney or Ureter.—Guyon comments on the remarkable tolerance of the kidneys and ureters for hard foreign bodies in contrast to their extreme sensitiveness to distension. Renal colics become valuable for the diagnosis of calculi when they are habitual and are unmistakably influenced by movement and repose. Calculi are liable to exist without causing pain on pressure or reflex pain. Hematuria induced by exercise is a valuable sign of a calculus, especially when accompanied by pains aggravated by the same factors.

10. Curability of Tuberculosis of Bladder.—Motz has witnessed 8 cases of complete recovery from a tuberculous bladder affection. One patient was curetted and 5 per cent. guaiacolated oil was instilled; another was treated with instillations of a 1/5,000 bichlorid solution. The others recovered without local treatment, after removal of the tuberculous kidney by nephrectomy or its exclusion by obliteration of the ureter. In 2 cases the affection was so severe that recovery had been considered hopeless. The urine contained abundant tubercle bacilli. No case of bladder tuberculosis should be considered hopeless after these experiences. The general condition should be improved by every possible means, and the fact should be borne in mind that tuberculosis of the bladder is very rarely primary. If the kidney is the primary source, its prompt removal will prevent reinfection of the bladder. Even an extremely severe bladder affection does not contraindicate nephrectomy in such cases. The bladder tuberculosis will probably retrogress, but no instance is on record of the cure of a clinically manifest tuberculosis of the kidney except by ablation of the organ affected. If the prostate and seminal vesicles are infected with tuberculosis they should be examined at brief intervals to discover a tendency to heal—which is a frequent occurrence. If not, and the lesions commence to soften, the irremediable destruction of the neck of the bladder should be forestalled by suppressing the focus at once and completely. His patients were 4 men and 4 women, the ages 15 to 45. The particulars of each case are detailed.

14. Ablation of Female Urethra.—Legueu's patient was a woman of 63 with tuberculous lesions of urethra and bladder. The tumor in the urethra had been diagnosed as cancer and had been twice ablated. The anterior urethra was then removed to prevent further recurrence. The various steps of the operation are illustrated. The patient, like others of the same category in the literature, is continent, except when laughing or exerting herself.

15. Chronic Cystitis.—After discovery and removal of the cause and resistance to instillation of nitrate of silver, the surgeon should not hesitate to curette and cauterize through a hypogastric incision. During the entire course of treatment urotropin should be administered to protect the ureters and kidneys from possible ascending infection.

18. Blennorrheal Urethritis.—Rychner states that in 22 cases treated with ichthargan, every patient was cured who completed the specified course of treatment. He gives the methods. Internal dosage of the drug was useless.

Revue de Gynécologie, Paris.
Last indexed XLI, page 1383.

20 (VII, No. 6.) *Sur une forme hypertrophique non-ulcéreuse de tuberculose de la vulve. P. Petit and X. Bender.
21 *Les uterus doubles. L. Ombredanne and A. Martin.
22 *Kystes hydatiques du ligament large et du grand épiploon. M. Bavariand.
23 *Choked Hernia. P. Nau.—L'engouement herniaire.
24 *Du traitement chirurgical des collections purulentes dans le lobe droit du foie (in right lobe of liver). H. Maasland (Hague).

20. Tuberculosis of Vulva.—The hypertrophied tissues in the vulva in the case described suggested elephantiasis, and the discovery of their tuberculous nature, with the presence of tubercle bacilli, was a surprise. Poeverlein has recently reported a similar case in his thesis at Munich. The patients were 31 and 49 years old, and the course of the affection was slow and chronic with no appreciable effect on the general health. Both cases were treated by extensive excision, repairing the defects as well as possible, and the immediate results were excellent.

21. Double Uterus.—There are seven types of a double uterus, as Ombredanne shows by diagrams and cuts of 2 cases personally observed. One belonged to the type in which both fundus and cervix are distinctly double, the other to the type in which the cervix of each uterus blends into a single large one. The literature is reviewed and the indications for operation on these deformities. Total hysterectomy is preferable to supravaginal amputation in such cases when surgical intervention becomes necessary for any cause. The only exception in case of bilateral annexitis would be if the broad ligament were found prominent, which is exceptional.

22. Hydatid Cysts of Broad Ligament and Greater Omentum.—Savariaud urges search for further tumors in operating on a hydatid cyst in the peritoneum of the Douglas cul-de-sac or the broad ligament. The latter rarely occur singly. He describes a case and extols the advantages of the abdominal route in operating on such cases.

23. Choked Hernia.—Nau analyzes 23 cases found in the literature in which a hernia had become obstructed by fecal masses; 5 in which the herniated loop had been choked by helminths; 3 in which a diverticulum was involved, and 4 of obstruction by a foreign body. The symptoms of obstruction of the herniated loop from these causes are milder than those observed in a strangulated hernia. The indolence of the tumor and the consistency of its contents are characteristic. Taxis must not be blind. By discriminating palpation it may be possible to differentiate the obstruction and massage it away in case the loop is absolutely intact. If not, treat it like a strangulation.

24. Surgical Intervention on Right Lobe of Liver.—Maasland has operated on 6 patients presenting an accumulation of pus in the right lobe of the liver. He is convinced that an individual with an abscess of the liver should be warned against living in a tropical climate. He has in several instances sent a nearly cured patient back to Europe, where the change of air completed the cure. If, however, the improvement encouraged them to return to the East Indies or other tropical clime, the suppuration recurred with increased intensity. Many cases are diagnosed malaria, but their lack of response to quinin differentiates them. Puncture of the liver is liable to be dangerous. One of his patients succumbed to hemorrhage into the abdominal cavity after the fifth puncture. Maitland and others have also published cases of fatal hemorrhage after puncture.

Revue de Médecine, Paris.

Last indexed page 132.

25 (XXIII. Nos. 11-12.) *Ulcérations du duodénum liées aux affections du rein (connected with kidney affections). E. Devic and J. Charvet.
26 *La perméabilité rénale dans les néphrites brightiques. L. Bernard.
27 *Etude de la myélite typhique. J. Lépine.
28 Syndrome de Brown-Séquard et syphilis spinale. Ibid. One case.
29 *Etude sur la linite plastique. Fréquence probable de son origine post-ulcéreuse et de sa nature epithelliomateuse. L. Hoche.
30 *Valeur et signification de l'hyperchlorurie au cours des pleurésies tuberculeuses. E. Micheleau.
31 La réciprocité dans la pathologie. S. Laache.

25. Duodenal Ulcerations in Bright's Disease.—Devic and Charvet have discovered ulcerations in the duodenum at the necropsy of 12 subjects with Bright's disease. Nothing in the clinical course had suggested these ulcerations, except melena a few days before death in a single instance. They are evidently among the complications to be expected in advanced stages of chronic kidney affections, and are probably usually overlooked in the clinic and at the necropsy. There was concomitant scoliosis in 3 of the cases described. The ulcerations display a tendency to burrow deep, with no effort at repair.

26. Permeability of the Kidneys in Disease.—Bernard's conclusions of this comprehensive study are to the effect that chronic interstitial nephritis is characterized by an early and constant impermeability of the kidneys, which is compensated at first by polyuria. In epithelial nephritis, on the other hand, accompanied by its edema and albuminuria, the kidneys are permeable, at least in the more rapidly fatal forms. In the protracted cases the kidneys become less permeable in the second stage. This difference in the permeability in the interstitial and the epithelial forms is revealed by the changes in the freezing point of the blood. Further research is needed on the permeability of the kidneys in various kidney affections other than Bright's disease (urinary, cardiac, diabetic, etc.). It may compel a revision of the theories in regard to the pathogenesis of uremia, and also enable us to classify the symptoms of renal origin according to the functional disturbance which is engendering them. The application of the functional tests has already shown that the cardiorenal type may be separated into two groups, the cardiac and the nephritic group, each recognizable by the characteristic permeability. He regards cryoscopy and the methylene blue test as the most reliable measures for estimating the kidney functioning, and describes their application in 30 cases.

27. Typhoid Myelitis.—Lépine's patient succumbed in about six weeks after the first symptoms of typhoid fever. Evidences of paralysis of the legs were noted by the second week, progressing to paraplegia in a few days. The lesions found at the necropsy were those of an acute anterior poliomyelitis of the lumbosacral region, with central myelitis and lesions of the white matter and leptomeningitis. They were probably due to the typhoid toxins, as no bacilli were found in the parts. Reviewing the literature, he finds that this typhoid myelitis is not always, but usually, fatal. Even if the patient recovers, he remains exposed to the eventual consequences of the past toxic action, entailing later possibly sclerosis in patches, chronic myelitis or tabes.

29. Plastic Linitis.—Hoche relates the clinical course and illustrates the pathologic anatomy of 5 cases of fibrous infiltration of the areolar network surrounding the vessels of the stomach. They show that this plastic linitis may be merely a connective-tissue lesion, or a hybrid connective tissue and epithelium lesion, in which either may predominate. The term spastic linitis is general, and should be supplemented by some word descriptive of the type as he sets forth in detail.

30. Hyperchloruria in Tuberculous Pleurisy.—Micheleau has been studying the demineralization of the organism in the course of tuberculosis. He found distinct excessive elimination of the chlorids in the urine in 17 out of 22 cases of tuberculous pleurisy, especially marked during the period of absorption. The 5 cases free from hyperchloruria were those in which recovery was most rapid. His experience indicates that it may be accepted as a sign of the tuberculous nature of the pleurisy and also of the tuberculization of the organism.

Berliner klinische Wochenschrift.

32 (No. 50.) When to Operate in Appendicitis? M. Jaffé (Posen).—Wann soll bei Perityphlitis operiert werden?
33 *The Höglauer Wave and Spring Baths. E. Meyer (Berlin).—Ueber Erfahrungen mit den Höglauer'schen Wellen und Quellbädern.
34 *Experimental Diagnosis of Tuberculosis of Kidneys. G. Salus (Prague).—Tierversuch und Nierentub., nebst einem Beitrag zur Kenntnis des Harnes Tuberkulöser.
35 *Ueber cyclische Albuminurie. Hauser (Berlin).
36 (No. 51.) *Transformation of the Pulse Into Musical Tones. Sommer (Giessen).—Die Umsetzung des Pulses in Töne.
37 Intermittent Kidney Insufficiency in Case of Arteriosclerosis. A. Landau (Warsaw).—Ueber die intermittierende NierenInsuffizienz bei Arteriosklerose.
38 Acquired High Shoulder. P. Manasse (Berlin).—Ueber erworbenen Hochstand des Schulterblattes.
39 Skiagraphy of Uterus of Fetus in Utero.—Skiagraphie eines etwa 4-monatlichen Foetus im Uterus infolge von Fäulnis der Frucht bei Missed Abortion. H. Rosenkranz (Berlin).
40 (No. 52.) *Attempts to Inoculate Anthropoid Apes with Syphilis. C. Lassar (Berlin).—Ueber Impfversuche anthropoiden Affen.
41 *Die Indicationen zur Extirpation der Milz (of the spleen). Jordan (Heidelberg).
42 *Tuberculose und Graviditât. W. Hahn.
43 Ueber Blumatose als Darm-Adstringens. P. Cohnheim (Berlin).

33. Artificial Wave and Spring Baths.—Höglauer of Munich has devised a system of waves in the bath water, produced by the action of a wheel driven by electricity. Meyer has been trying these new wave and spring baths, as they are called, in the hydrotherapeutic treatment of neurasthenic and obese subjects and those with constipation on a nervous basis. The influence of the gentle massage induced by the commotion of the water had an unmistakable favorable action. Patients with rheumatic pains were also benefited by them. The water is forced up through a dozen openings in the double

bottom of the tub for the spring baths. Both forms are illustrated.

34. Experimental Diagnosis of Renal Tuberculosis.—Salus advocates subcutaneous inoculation of guinea-pigs with the sediment of the sterile, centrifugated urine as the best mode of confirming the diagnosis of a tuberculous renal affection. He found that the urine contained traces of albumin in 44 per cent. and formed elements in 51 per cent. of 27 cases of a known tuberculous process elsewhere than in the kidneys. There is also a possibility that tubercle bacilli might find their way into the kidneys from the circulation or diseased tissues without an actual tuberculous renal affection, consequently the discovery of abnormal conditions in the urine does not inevitably indicate a local kidney affection. It may, however, confirm the existence of a tuberculous lesion somewhere in the body.

35. Cyclic Albuminuria.—Hauser has had 14 cases under observation for years, and has become convinced that this condition is due to the relics of some preceding infectious disease still persisting in the kidneys. It is therefore a persisting, unhealed nephritis, and is especially prone to occur after scarlet fever. Treatment includes prolonged rest in bed, exclusive milk and vegetable diet kept up for a long time, copious diuresis by means of mineral waters to ensure the thorough rinsing out of the kidneys, with systematic training of the kidneys to accustom them to a gradually increasing amount of work. He was able to cure nearly all of his patients by this technic, but at the same time he warns that in a certain proportion of these cases the cyclic albuminuria is due to an absolutely incurable nephritis. Relapses are also frequent.

36. Musical Pulse Register.—Sommer describes and illustrates an apparatus that he has invented by which the sphygmograph index works on a small, primitive wind instrument, emitting a constant musical tone. The variations in the pulse rate raise or lower the note, and with a corresponding tempo. By this acoustic method it is possible to detect and study irregularities in the rhythm better perhaps than by the other methods in vogue.

40. Attempts to Inoculate Apes with Syphilis.—Lassar reports that he repeated the experiments of Roux and Metchnikoff on a chimpansee, striving to inoculate it with syphilis. Most of the points where the syphilis virus was introduced rapidly healed, and only on the brow two ulcers developed which slowly retrogressed after a few weeks. A papulous affection was also observed on the palms and soles and the animal shed some of its hair. It is possible that these results indicate an abortive form of syphilis, but Lassar thinks that considerable good will is required to accept them as such. In a second animal an ulcer developed which likewise bore considerable resemblance to the primary syphilitic lesion, as can be seen from the cuts.

41. Indications for Removal of Spleen.—The enlarged spleen of leukemia should never be removed, Jordan thinks, but under other conditions the prognosis of splenectomy is good. He has performed the operation in 7 cases, and all the patients but 1 recovered. In the 17 cases of Banti's disease in which the spleen was removed, 14 of the patients recovered. Splenectomy is justified in certain cases of malaria. The mortality is constantly diminishing.

42. Tuberculosis and Pregnancy.—Hahn regards pregnancy as a serious complication of tuberculosis, but thinks that after the fourth month there is nothing to be gained by induction of abortion in comparison with allowing the case to go on to normal term. Conception should be prevented in tuberculous women, but he does not advocate systematic interruption of a pregnancy.

Centralblatt f. Bakteriologie, Etc.

Last indexed page 276.

44 (XXXIV, No. 7.) Zur Kenntnis der anaëroben Bakterien des Menschen. Zur Aetiologie des Gasbrandes (of gas gangrene). A. Ghon and M. Sachs.

45 La constitution du poison diphthérique. T. Madsen (Copenhagen).

46 Diplococcus intracellularis meningitidis (Weichselbaum) in Nose. Report of a Case without Meningitis and Review of the Literature. F. T. Lord (Boston).

47 Ueber die Aetiologie von "Ekiri," einer eigenthümlichen, sehr akuten, ruhrartigen, epidemischen Kinder-Krankheit in Japan (peculiar dysenteric disease in children). S. Ita.

48 Les épithéliomas parasitaires. F. J. Bosc.

49 Attenuation of Mammal Tubercle Bacillus by Passage Through Frogs. H. Herzog.—Die Abschwächung der Säugethiertuberkulosebasillen im Kaltblüterorganismus. (Concluded.)

50 Composition of Blood at Different Ages. H. Sachs.—Ueber Differenzen der Blutbeschaffenheit in verschiedenen Lebensaltern.

51 Ueber Complement-Bindung durch Organ-Zellen. E. Hohe.

52 *The Adrenal Gland and Its Active Principles in the Relations to Cytolysins and Antitoxin Production. A. C. Abbott.

53 Zur Theorie der natürlichen antibakteriellen Immunität. P. P. Müller. (Concluded.)

54 Zur Agglutination der Streptococcen. P. Moser and C. v. Pirquet. (Concluded.)

55 Untersuchung über die anatomische Wirkung einiger Organ-Extrakte. G. Gbedini.

56 *To Make and Keep Silk Threads Impregnated with Spores for Tests of Disinfection. K. Kokubo.—Ueber die Anfertigung und Aufbewahrung von Sporenseidenfaden für Desinfektionszwecke.

57 Behavior of Löffler Mouse Typhus Bacillus on the v. Drigalski-Conradi Culture Medium. Siebert.—Verhalten des L.'schen Mäusetyphusbac, etc.

58 A Simple Method of Making Collodium Sacs for Bacteriological Work. W. D. Frost (Madison, Wis.).

52. Active Principles of Adrenal Gland.—Abbott found that the removal of the hemolytic receptors out of the serum of rabbits previously injected with adrenal substance from guinea-pigs, prevented any hemolytic action on the blood of these animals. The corpuscles in the blood of the guinea-pigs remained intact after removal of these receptors, while they were rapidly destroyed by the action of the whole serum. His research was published in this country last year.

56. Spore Threads for Tests of Disinfection.—Kokubo recommends to dry the threads at room temperature and keep them in a dark place, when they are ready for use at any time.

Dermatologische Zeitschrift, Berlin.

Last indexed XII, page 119.

59 (X, No. 5.) *Relations Between Becquerel Rays and Cutaneous Affections. S. W. Goldberg and E. S. London (St. Petersburg).—Zur Frage der Beziehungen zwischen Becquerelstrahlen und Hautaffektionen.

60 Zur Histologie der Verrues senilis. F. Poor (Budapest).

61 Cord-like Phlebitis in Early Stages of Syphilis. E. Hoffman (Berlin).—Ueber strangförmige Phlebitis im Frühstadium der Syphilis.

62 Ueber Rein-Kulturen von Ulcus molle-Bacillen. F. Fischer (Berlin).

63 Ueber bovine Impf-Tuberkulose. O. Lassar (Berlin).

64 Iron Arch Light Versus Carbon Arc Light. G. Busck (Copenhagen).

65 (No. 6.) Epidermolysis bullosa hereditaria. Bettmann (Heidelberg).

66 Relations Between Psoriasis and Joint Affections. L. Lipman-Wulf.

67 Behandlung der chronischen Gonorrhoe mit Spülsonden (with Report of Cases). A. Strauss (Barmen).

68 *Light Treatment After "Sensibilisation." G. Dreyer (Copenhagen).—Lichtbehandlung nach Sensibilisierung.

59. Radium Burns.—A small box with a mica cover, containing 75 mg. of radium, was fastened on Goldberg's arm and left there for three hours. No effect was apparent until four days later when a red patch developed about the size of the box cover. This became transformed into a necrotic ulcer by the fourteenth day, spreading until it presented the aspect of a serpiginous ulcer, and four other ulcers developed at different points on the arm, passing through the same phases from the red patch onward. A similar patch developed further on the chin, groin and hand, terminating likewise in necrosis of the corium. The healing process commenced first in the later patches. At the date of writing, the first patch still presents an atonic ulcer, gradually healing and only half as large as it was at one time. The action of radium is proportional to its radio-activity and not to its bulk. Further experiments on animals showed that a lump of 75 mg. was much less effective than another weighing only 30 cg. The entire process runs an almost painless course. The exposure and all the subsequent phenomena were painless. The necrosis develops without fever, and the ulcer has a peculiarly torpid character. In 2 cases of ulcus rodens of the nose or cheek, treated by half-hour exposure to the radium once a week, the lesion gradually healed by a process of evident sclerosis. By the end of two and a half months the cosmetic results were most excellent. One of the patients, thus treated for a total of four and one-half hours, has nothing left of the ulcer except a lighter-colored patch of skin and slight depression. The

facts observed suggest that there are other rays involved besides the true Becquerel rays. The portability, easy dosage and remarkable localized action render this new therapeutic agent, the writers conclude, a pre-eminently valuable addition to the therapeutic arsenal.

68.—This was noticed editorially, page 469.

Monatsschrift f. Geb. und Gynäkologie, Berlin.
Last indexed XLI, page 1173.

69 (XVIII. No. 1.) Ueber Syncytien, Plasmodien und Symplasma in der Placenta der Säugetiere und des Menschen. R. Bonnet.

70 Histologische Untersuchungen über die Parametritis. O. Busse.

71 *Leucocyte Count in Gynecology. M. Dützmann.—Die Verwerthbarkeit der Leukocytenbestimmung bei Erkrankungen des weiblichen Genital-Apparats.

72 Ein eigenartiger Fall von Blasentumor (bladder tumor). Berndt.

73 *Neuere Bestrebungen bei der Behandlung des Puerperal-Fiebers. A. Bennecke (Griefswald).

74 (No. 2.) *Das traubige Sarkom der Cervix uteri. H. Peham.

75 *Ueber traubenförmige Sarkome im Corpus uteri. H. Keitler.

76 *Prevention of Perforations in Curetting Uterus. O. Küstner.—Einheilen von Netzpartien die Uterushöhle nach Perforation mit der Curette, mit Bemerkungen über Vermeidung und Therapie der Curettenperforation überhaupt.

77 Treatment of Displacement of Uterus and Vagina. J. Pfannenstiel.—Zur Diskussion über die Behandlung der Falschlagen von Uterus und Scheide.

78 Ueber die Einwirkung des Oophorin auf den Stoffwechsel von Frauen mit und ohne Ovarien (action of oophorin on metabolism). P. Mathes.

79 Radiogram of a Supposed Ovarian Cyst Showing Skeleton of Fetus. Brohl.—Ein seltenes Rontgenbild.

80 Ausgetragene Gravidität im atretischen Uterus bicornis bicollis, zugleich ein Beitrag zur Diagnose desselben. L. Fraenkel (Breslau).

81 Zur Pubeotomie nach Baumm. L. Gigli. Reply by P. Baumm.

82 (No. 3.) Ueber das maligne Uterus-Myom (Leiomyoma malignum uteri). Ueshko-Stroganowa.

83 Case of Ingrown Placenta and Rupture of Uterus After Credé Expression. B. Schwendener.—Fall von angewachsener Placenta und Uterusruptur nach Credé'schem Handgriff.

84 Zur Aetiologie der isolierten tiefliegenden Vagina-Verletzungen sub coitu. L. Friedmann (Cracow).

85 *Zur Radikal-Operation bei puerperaler Sepsis. R. Asch (Breslau).

86 *Zur Behandlung der puerperalen Sepsis. Rosenstein (Breslau).

87 Hygiene in Sexual Life of Woman and During Childbirth in Ancient Greece and Rome. J. Lachs (Cracow).—Die Hygiene im Geschlechtsleben der Frau, etc.

71. Leucocyte Count in Gynecology.—Dützmann reports 223 cases in which 2,000 counts were made. In 90 pus was revealed by this means when the probabilities were against its existence by other tests, even palpation in narcosis. He concludes from his experience that in cases of exudate formation with suppurative breaking down, the leucocyte count may impart invaluable information. It is also important for differentiation of suppurative and non-suppurative affections of the adnexa and also as a guide to the choice of the vaginal or abdominal route. Hyperleucocytosis in cases of myoma, carcinoma or tubal pregnancy is sometimes the only sign of an unsuspected accumulation of pus. The leucocytes do not increase in number in case of tuberculous suppuration and only slightly with gonorrheal. He found a marked hyperleucocytosis accompanying torsion of ovarian cysts with peritonitic lesions, but no pus. In sepsis the leucocyte count may sometimes possibly indicate the proper moment for intervention, as diminishing numbers show that the resisting forces are weakening. The leucocytes behave in eclampsia the same as in sepsis, which is additional testimony in favor of the assumption that it partakes of the nature of an infectious disease. The iodin reaction of the leucocytes in case of suppuration will sometimes confirm the diagnosis suggested by the leucocyte count.

73. Treatment of Puerperal Fever.—Bennecke's review of recent endeavors in the treatment of puerperal fever seems to justify the attempt to save life by radical surgical intervention in the rare very severe cases. The majority, however, respond sufficiently to internal medicine, with serum treatment and various chemical-biologic measures. The prospects for the latter are becoming more and more promising.

74 and 75. Staphylomata in Cervix and Uterus.—Peham's patient was a young nullipara who required repeated intervention for the removal of a number of long, grape-like, pedunculated tumors which proved to be sarcomata. Some of them grew to be as large as a child's head. She succumbed to anemia in the course of five years, at the age of 24. Keitler reports the removal of seventeen sarcomatous polyps from the body of the uterus of a woman of 54. The organ was removed later. Peham's case is illustrated and the literature reviewed.

76. Prevention of Perforation in Curetting the Uterus.—Küstner describes 2 cases in which the omentum had plugged and healed a perforation made by a curette. He advises dilating the organ well before attempting to curette it, which can all be done at one sitting. The curette should have a graduated scale on it so that the distance in which it is inserted in the uterus may be constantly under inspection. This is especially necessary when used after an abortion and in case of carcinoma of the corpus. When part of the ovum is still retained and the uterus is large and soft, the fingers had better be used instead of the curette. Especial care is necessary in cases that have been previously curetted by others. In case of carcinoma, perforation should be immediately followed by removal of the uterus, but under other conditions compelling intervention he opens the abdomen and sutures the perforation.

85. Radical Operation in Puerperal Sepsis.—Asch has performed the radical operation in 10 cases after failure of all other measures. All but 3 of the women recovered from their desperate condition. He reviews the various indications for radical intervention, remarking that in case of saprophytic infection the focus usually remains limited to the uterus. Such cases only exceptionally require extreme measures. In case of streptococcus infection, abdominal intervention with drainage through the vagina is justifiable in advanced stages when convinced that the organism is unable to cope with the infection unaided. Such conditions are most liable to occur after criminal abortion and detachment of the placenta. When the infection has spread and induced abscesses in the parametrium—generally in this case through some rent in the perineum—the evacuation of the abscesses through the vagina should be first tried, with removal of the uterus by the same route as a last resort. The most serious mode of propagation of the infection is by way of the circulation, inducing thrombophlebitis. The thrombosed veins should be removed with the uterus. His conclusions are based more on the findings in patients who have died unoperated, than on his surgical experience. He is convinced that some of the fatalities might have been avoided by surgical intervention even very late.

86. Treatment of Puerperal Sepsis.—Rosenstein is inclined to ascribe great value to the silver salts in the treatment of puerperal sepsis. He thinks that as testimony accumulates in favor of the harmlessness of collargol we shall feel justified in injecting it still more freely and that the results will be much better. The results of treatment with nuclein combined with saline infusion, as practiced at Schauta's clinic and recently published by Hofbauer, are even more promising. Their effect is principally to attract the leucocytes, and the results were remarkably favorable. He mentions formalin injections as requiring further confirmation. In conclusion, he relates the history of a severe case with one or two chills a day and spleen much enlarged. Improvement was marked after injection of 10 gm. of a 1 per cent. solution of collargol, followed by 2 similar injections. Under their influence the spleen rapidly subsided to normal size. The improvement under collargol was unmistakable in this as in a number of other cases in his experience. The 3 injections were made in the course of eighteen days.

Virchow's Archiv, Berlin.
Last indexed XLI, page 324.

88 (CLXXIV. No. 2.) Ueber Chorio-Epitheliome die ausserhalb der Placenta-Stelle entstanden sind. O. Busse.—Two Cases of Chorio-epithelioma Developing Outside the Site of Placental Insertion.

89 Ueber die embryoiden Geschwülste der Keimdrusen und über das Vorkommen chorioepitheliomartiger Bildungen in diesen Tumoren (tumors in sexual glands). H. Steinert.

90 Ueber Adenom- und Karzinom-Bildung an der Ampulle des Gartner'schen Ganges. R. Meyer.

91 *Genesis of Blood Plates. P. Schneider.—Zur Frage der Blutplättchengenese.

92 Fall von acuter Leukämie (acute lymphatische) mit einem Schema für die Einteilung der Leukämien und Pseudoleukämien.

93 Experimental Production of Fat Synthesis in Surviving Organ. F. Fischler.—Ueber experimentall erzeugte Fettsynthese am überlebenden Organ, ein Beitrag zur Frage der Fett-Degeneration.

94 Zur Kenntnis der Wirkung der Purin-Substanzen. J. W. Hall (Stockholm).

95 Cryoscopy of Animal Organs with Special Regard to the Freezing Point of the Kidneys. Blanck (Potsdam).—Kryoskopie tierischer Organe, unter bes. Berücksichtigung der Gefrierpunktsbestimmungen der Niere.

96 Elimination of Sugar After Injection of Adrenalin and Influence of Artificially Induced Fever. E. Aronsohn.—Die Zuckerausscheidung nach Adrenalininjektionen und ihre Beeinflussung durch künstlich erzeugtes Fieber.

97 Eine 4 fingrige rechte Hand als kongenitale Missbildung. R. Hadlich.

98 Reply to Martinotti: "Struttura della fibra muscolare striata in acromegalia." J. Schaffer.

99 Elastic Tissue in Liver in Infectious Diseases. T. Mironescu. —Zum Studium des elastischen Gewebes in der Leber bei Infektionskrankheiten.

100 Zur Frage der benignen Pylorus-Hypertrophie Cruveilhier's. A. Meinel.

91. Genesis of Blood Plates.—Schneider asserts that the blood plates are derived from the blood corpuscles, and are not distinct formations.

Riforma Medica, Palermo.

101 (XIX, No. 51.) *Action of Sublimate on the Kidney. A. T. Gallerani.—Azione del sublimato sul rene.

102 Sugli anticorpi immunizzanti del siero di convalescenti di tifo e sul rapporto di questi con le agglutinine. A. Bonome and R. Ravenna.

103 *Ipocoidità urinaria e fosfaturia apparente. A. Campani.

104 *Wire Joints. G. Pascale (Naples).—Neoartrosi a sostegni metallici. (Commenced in No. 46.)

105 Sarcoma del mediastino ed acromegalia. E. De Silvestri.

106 (XX, No. 1.) *La cataforesi come metodo di cura locale nelle malattie di stomaco. L. Ferrannini (Palermo).

107 Una epidemia da colibacilo. A. Martinelli (Bologna).

108 Study of Bactericidal Action of Blood and Serum of Pigeons, Normal and Immunized Against the Anthrax Bacillus. E. Spangaro (Padua).—Intorno all' azione battericida del sangue puro, del sangue spiaemato, del plasma e del siero dei colombi normali ed immunizzati verso il bacillo del carbonchio antrace.

101. Sublimate Injected Into the Kidney.—The direct injection of a solution of sublimate into the parenchyma of the kidney of rabbits causes a deposit of calcareous salts around the spot.

103. Hypoacidity of the Urine and Apparent Phosphaturia.—Campani thinks that the presence of the earthy phosphates in large amounts in the urine is frequently not an indication of phosphaturia, but merely of insufficient acidity. This hypoacidity sometimes coincides with puberty and with venereal excesses. The mineral acids, especially hydrochloric acid, are the best means of combating the condition.

104. Wire Joints.—Pascale illustrates a case of a new shoulder joint reconstructed with wire after extirpation of the head of the humerus on account of sarcoma. Also a wire hip joint, inserted on account of subluxation and badly consolidated fracture of the neck of the femur. He also reviews the experiences of others in this line, and concludes that there is a promising future for such operations. It is possible by this means to reconstruct a joint with loops of wire. They are perfectly tolerated by the tissues even when the excursions are quite extensive. The wire not only fastens the bones together, allowing normal function of the parts by the new joint, but maintains the normal outline of the parts and thus favors muscular function and prevents atrophy. It also promotes the formation of new bone and regeneration of the tissues, directing and shaping the neoformation according to the normal type. He finds platinum the best metal for the wire, as it is extremely malleable and resistant. He prefers a double wire rather than a single wire of the same strength and size. The loop should be introduced to stay permanently, with no idea of removing it later. He gives cuts of his patients, one standing on and flexing the leg in which the hip joint is one of these wire ones. It is almost impossible to detect any difference between the aspect or functioning of the two sides. The results of such operations to date, although the number is very limited, are strong testimony in their favor. The literature on the subject is reviewed.

106. Cataphoresis as Method of Local Treatment of the Stomach.—Ferrannini announces that the direct application of electricity to the interior of the stomach, after ingestion of certain drugs, has a remarkable action on the absorption of the drug, hastening and intensifying its effect on the system. He calls this "local medication by cataphoresis." He uses an ordinary esophagus sound through which a wire is passed, terminating at the stomach end in a metal knob and connected at the upper end with the positive pole of the galvanic current, the negative pole being a large electrode applied to the epigastrium. The intensity of the current was not allowed to surpass 5 milliamperes, and the duration of the application not longer than five to ten minutes. He used for the tests a solution of .5 gm. potassium iodid in 500 gm. of distilled water, and then examined the saliva to detect the appearance of iodin. A number of tests were made on various subjects, always before breakfast to ensure similar conditions in each, and with and without the electricity on alternate days, for purposes of comparison. The results varied in different individuals. In one, the iodin reaction was obtained in the saliva four minutes after ingestion of the iodid when the current was turned on, but in tests without the current the reaction did not appear until the tenth to the twelfth minute. In one subject whose absorption was poor, the reaction appeared under the cataphoretic action in fifteen minutes, while without the electricity, twenty-five to thirty minutes always elapsed before the iodin could be detected in the saliva. In the clinic he found that strychnin and other drugs taken in half the usual dose, dissolved in a pint of water and followed by the cataphoresis, rapidly displayed the desired therapeutic effect, and frequently in subjects previously rebellious to the drug. The effect was also more durable. One patient with anachlorhydria who had been in the habit of vomiting every day for eight years and who had been treated in vain with all known measures, including strychnin and electricity in other forms, was rapidly restored to health by strychnin, supplemented by the cataphoresis. Equally remarkable results were obtained with atropin and cataphoresis in cases of hypersecretion and hyperchlorhydria.

Semana Medica, Buenos Ayres.

Last indexed XL, page 286.

109 (IX, No. 40.) El diagnostico de los embarazos ectopicos (extrauterine pregnancy). D. Decoud.

110 Medios para acelerar y provocar el aborto. S. Gache.

111 (No. 41.) La tuberculosis en la administracion de correos y telegrafos. J. Garcia.

112 Datos para la Materia Medica Argentina. J. A. Domingues. (Commenced in No. 26 and continued.)

113 (No. 42.) Inciertitud del cito-diagnostico en las pleuresias exsudativas. J. Zubiaurreta.

114 (No. 43.) Tests of Tick-Killers. J. Lignières.—Estudios sobre los productos destinados a destruir la garrapata.

115 (Nos. 44-46.) La pasteurelosis y la estreptiosis bovina. Ibid.

116 Nefrotomias, nefrectomias, nefropexias y uronefrosis. D. Decoud.

117 (No. 47.) *Pronostico de los quistes hidatidicos del cerebro. L. S. Reggiardo.

118 (Nos. 48-50.) Efectos del alcoolismo en la delincuencia, morbilidad y mortalidad en la Republica Argentina. Committee report.

119 (No. 51.) La operacion radical o vaciamiento petromastoideo. J. Correo.

120 El Surra americano o mal de Cadera. F. Rivori and M. Lecler.

121 (No. 52.) Caracteres clinicos de las locuras simuladas (of feigned insanity). J. Ingegnieros. Also in No. 5 below.

122 La natalidad legitima e ilegitima. G. Carrasco. Statistical.

123 (X, No. 1.) New Design for Tube for Intubation. S. G. Madrid (Buenos Ayres).—Nuevo aparato del autor. Oportunidad de la intubacion.

124 (No. 2.) Estudio clinico de algunas neuralgias sintomaticas. B. M. de Ymas.

125 *Preliminary Injections of Salt Solution as Preventive of Vomiting in Laparotomies. A. Villanueva.—Las inyecciones previas de soluciones salinas en la cirurgia abdominal.

126 *La creosota en altas dosis en la tuberculosis. A. Cordero.

127 (Nos. 3-5.) Estudio del mixedema congenito. J. A. Videla.

128 (No. 6.) Responsabilidad y temibilidad de los alienados delincuentes. P. L. Anaut.

129 *Rubio's Gluteal Reflex. New Sign of Hip Disease. O. Acevedo.—El signo de Rubio: reflejo gluteo.

130 Claudicacion funcional de las capsulas suprarenales. T. Suares.

131 Quistes hidaticos del pulmon. R. Cabrera.

117. Prognosis of Hydatid Cysts in Brain.—Reggiardo gives numerous cuts of the findings in 3 cases of sudden death attributable to a hydatid cyst in the brain. On this basis and after analysis of the literature he concludes that death is inevitable in cases of a cyst inside a ventricle. The diagnosis of the intraventricular variety is suggested by the absence of localized symptoms, by the rapid development of the lesion, and by the extent of the paralytic phenomena. The prognosis

is also grave in case of periventricular cysts, but surgical intervention is indicated with some probability of success. The prognosis is still grave, but much less so in cases of paraventricular cysts, and intervention here should not be delayed an hour. As recovery in the latter case is possible, and as differentiation of the various forms is difficult, early exploratory intervention is justified in all cases, especially those with complex symptoms.

125. **Injection of Salt Solution to Avoid Vomiting in Laparotomies.**—Villanueva injects about 400 gm. of salt solution subcutaneously the day before he operates. In two years' experience with this measure he has found that it has a remarkable effect in reducing the tendency to vomit during or after the narcosis. He experimented on animals trying to discover a reason for this inhibiting action of the saline infusion, but was unable to discover the mechanism.

126. **Creosote in Tuberculosis.**—Cordero has been much impressed with the fine results attained in pulmonary tuberculosis by administration of large doses of creosote, part by the mouth and part by the rectum. In certain cases it is perfectly tolerated by the stomach and in progressive doses seems to display a direct and rapid action on certain forms of tuberculosis. He has given as much as 5 to 6 gm. a day by this dual route without inconvenience.

127. **Rubio's Gluteal Reflex: Sign of Hip Disease.**—The reflex mentioned is constant in case of incipient inflammation in or around the joint, but is never observed in hysteric or purely neuralgic affections. When percussion is applied with the fingers over the surface corresponding to the gluteus maximus, the gluteus and posterior muscles twitch as with an epileptoid tremor. The sign is most pronounced when percussion is applied at the point where the nerves pass through the sciatic notch, also along the course of the greater sciatic nerve. This phenomenon will invariably differentiate an inflammatory process from a purely nervous or hysteric affection. Acevedo has named this sign after the late Professor Rubio, as a tribute to his memory.

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British Medical Journal, London.

January 30.

122 *Suprapubic Prostatectomy. Thornley Stoker.
123 *Prostatic Enlargement and Its Treatment by Freyer's Method. Gilbert Barling.
124 *Anatomical Criticism of the Procedure Known as Total Prostatectomy. Cuthbert S. Wallace.
125 *Notes on Myiasis. P. S. Lelean.

132. **Suprapubic Prostatectomy.**—Stoker's method is practically the same as that of Moynihan noticed in THE JOURNAL of February 20, 1904, p. 559. He details the method, the use of the suture through the parietal walls and bladder at the suprapubic opening to prevent any perforation of the peritoneal sac and to keep the opening of the bladder accessible. In performing suprapubic cystectomy he says the endeavor should be to make a wound with its apex at the bladder and its base at the skin surface. As a rule, it should not be closed or sutured except by the solitary suture he employs. There is likely to be considerable clotted blood in the bladder two or three days after the operation. It is usually best to let this alone, as its presence seals the large veins about the prostatic area and limits the tendency to bleeding and septic absorption. The urine also rapidly disintegrates the clots, and they are usually soon gotten rid of without effort. He never uses more than the most gentle syringing for several days after suprapubic operations. He thus classifies prostatic enlargements:

1. A true hypertrophy of the gland without any interstitial growths. 2. The existence on and within the substance of the prostate of one or more encapsuled tumors, distinct from the substance of the gland proper, and either myomatous or adenomatous in structure. Both forms of neoplasm or one only of them may be present. 3. A mixed condition of true hypertrophy and interstitial growths of the second class. This is much the most common. The tumors may eventually reduce the prostate to a state of pressure atrophy, or cause it to become a mere capsule for adventitious growths. It is the latter condition which, in all probability, has given rise to so much dispute and uncertainty as to the true pathology of enlarged prostate.

133. **Freyer's Operation.**—This term is sometimes used for the suprapubic method introduced by Freyer and described by Barling. He explores the prostatic region with a Ferguson's speculum after opening the bladder. In the operation he differs from Stoker in advising that in the prostatic capsule the incision need only pass through the mucous membrane and not also involve the gland as Stoker recommends. The value of the operation is marked in young prostatic subjects and where vesical stone is a complication. He reports in detail a number of his cases, and concludes that it is possible to enucleate the prostate and that the prostatic urethra is almost invariably, if not always, removed with the organ. If it were left it would necrose from want of blood supply. Its removal does not cause stricture. The operation gives excellent results, often restoring the function of the bladder to an absolutely normal condition.

134. **Anatomic Criticism of Total Prostatectomy.**—Wallace's conclusions are that the usual form of prostatic enlargement is an adenomatous one and that adenomatous tissue may surround the urethra or form masses in the lateral parts of the organ, behind the urethra, or in all three parts. The parts removed may consist of adenomatous masses from the lateral parts or of an adenomatous formation completely surrounding the urethra. He thinks that there is always left behind a definite laminated envelope containing glandular tissue derived from the expanded outer portion of the organ and that the amount of envelope left on the surface of the tumor after removal depends on the depth at which the enucleating finger cleaves the envelope; that the rectovesicular fascia is not opened nor the prostatic plexus or veins injured. While it is possible to remove small adenomata from the central or lateral part of the prostate without extensively involving the urethra, yet this canal is removed *in toto* when adenomatous growths are extirpated in their envelope and the lateral walls come away adhering to the adenomata when these are of any considerable size. He suggests the use of the term "surgical capsule" to be applied to the envelope formed from the prostate by the expansion of the adenomata. It is a pathologic formation, and represents more than the outer non-glandular portion called the cortex by Mr. Shattock. Its presence causes the small amount of bleeding and absence of urinary extravasation. In fact, he says, in the so-called total prostatectomy the enucleating finger never passes outside the limits of the prostate.

135. **Myiasis.**—Some remarkable cases of dipterous parasite infection are recalled by Lelean. He describes a form of fly, parasitic in the human species, observed by him in northern Nigeria, and remarks on the difficulty of extirpating maggots in some cases. The vitality of some of them is such that they survived five minutes' immersion in pure carbolic acid.

The Lancet, London.

January 30.

136 *Hysterical Skin Symptoms and Eruptions. Thomas D. Savill.
137 *Sanatorium Treatment of Pulmonary Tuberculosis. C. Theodore Williams.
138 *Relation of the Medical Practitioner to Preventive Measures Against Tuberculosis. Arthur Newsholme.
139 Note on the Probable Mode of Infection by the So-called Filaria Perstans, and on the Probability that This Organism Really Belongs to the Genus Tylenchus (Bastian). H. Charlton Bastian.
140 *A Contribution to the After-history of Gastric Ulcer. James W. Russell.
141 Notes on a Case of Otitic Cerebellar Abscess; Extradural Abscess; Trephining Middle and Posterior Fossæ; Recovery. Percy Jakins.
142 *The Efficient Treatment of Cardiac Failure. Alexander Morison.

136. **Hysterical Skin Symptoms.**—Savill describes seven different kinds of hysterical skin symptoms: General pallor, attacks of flushing, localized patches of congestion, dermatographia, acroparesthesia, erythromelalgia, urticaria, erythematous and hysterical exudates and localized ischemia; the first three are peculiar to hysteria, the other four are more frequent in hysterical than non-hysterical subjects, but he considers them expressions of vasomotor neuroses plus toxemia. Among the co-operating causes he includes toxins of gastro-intestinal origin, articles of diet, traumatisms, toxins of insects, etc. In conclusion, he remarks on the resemblance of the skin to the central nervous system in embryonic origin

and its pathologic resemblances to certain disorders, as syphilis, for example.

137. **Tuberculosis.**—Williams discusses the sanatorium treatment, giving the details as to construction, methods of exercise, disinfection, hydrotherapy, sun baths, etc., and discusses the results with tabulated statement of the experience of the German and Swiss sanatoria. He thinks the sanatorium treatment may be expected to produce great improvement in all but the very advanced cases and its educational value must never be overlooked. We must not be satisfied, however, with the sanatorium treatment, but endeavor to discover every weapon in our war against tuberculosis.

138. **Prevention of Tuberculosis.**—Newsholme insists on the importance to the community and to the individual of diagnosis before the bacilli can be found in the sputum. He thinks that compulsory notification is certain to come, though there are strong reasons against forcing such a measure at once.

140. **Gastric Ulcer.**—Russell studied 89 cases of gastric ulcer, tracing the history of 47, with recent particulars of 16. During the seven and one-half years covered by his inquiry the direct mortality was 2.1 per cent.; while 4.3 per cent. died from intercurrent disorders; 42.6 per cent. recovered (unless later history disproves it); 27.7 per cent. had but one attack and 14.9 per cent. recovered after one or more relapses; 6.4 per cent. can not be as yet classified as recovered or continuous and may eventually fall into either class; finally, 44.7 per cent. were suffering from stomach symptoms of more or less severity at the last report; 14.9 per cent. of these having repeated and definite attacks with intervals of immunity and 29.8 per cent. suffering almost continuous pain. He thinks the last group affords some justification for the plea for more frequent operative interference in persistent cases, always providing that the mortality can be kept low.

142. **Cardiac Failure.**—The use of digitalis in full doses is advocated by Morison in proper cases of cardiac weakness. He would give under favorable conditions in ingravescent cardiac failure 15, 20, 25 or 30 minim doses in the adult, at four hours' interval until a definite effect is produced on the action, force and capacity of the dilated and failing heart. This may require a continuous administration in such doses of the combined tinctures of strophanthus and digitalis until 200 or 300 minims have been taken. He thinks there is no unjustifiable risk in this rapid method of containing cardiac control provided it is used in suitable cases. Defects in the right heart alone or cardiac failure from purely pulmonary causes tend to deplete the left heart. The left ventricle of a fatal pneumonia, if the muscle has any native vigor, is often small and contracted. It is the left ventricle of asphyxia in which true cardiac failure plays only a secondary part unless the heart is otherwise degenerated. Here the digitalis group should be used with great care if at all. Such drugs, if they increase the ventricular systole, lessen the absorptive power of the left ventricle at the same time by decreasing its capacity. He speaks well of venesection in cardiac failure as a temporary expedient for urgent irrigation.

Indian Medical Gazette, Calcutta.

January.

143 *Doctors as Civil and Political Officers. D. G. Crawford.
144 *Resisting Powers of the Larvæ of Culicidæ to Desiccation. E. Jennings.
145 Malaria: as Seen in the Andamans Penal Settlement. (Continued.) Ernest E. Waters.
146 *"Liver Chill" as a Factor of Disease in the Tropics. (Continued.) A. E. Grant.
147 Diphtheria in the Madras Presidency. J. W. Cornwall.
148 Report of a Small Outbreak of Cholera in 10th D. C. O. Lancers (Hodson's Horse) in June, 1903. E. A. C. Matthews.

143. **Doctors as Civil and Political Officers.**—Crawford gives an interesting list and the history of a number of prominent officers of the Indian medical service who have taken high positions in civil and political life in that country and in conclusion mentions others not in that service who have likewise been prominent, including General Wood of this country. The article shows the ability of medical officers to meet the demand of even the highest non-medical positions when required.

144. **Hibernation in Mosquitoes.**—The term hibernation is hardly correct for the tiding of mosquitoes over the hot season, but it appears to Jennings that they have a power of getting into the mud in the larval state and there passing the period inimical to their breeding. He has himself not been able to keep mosquitoes alive long without food or water, but he does not see how they can survive in certain parts of India other than in the way mentioned. He has been able to exclude the egg stage and thinks that the larval condition must be the form in which they survive.

146. **Liver Chill.**—Grant calls attention to the danger of sudden chill after exercise or overheating and the relations of moisture and dryness to the condition. Where the atmosphere is hot and dry the danger of chilling is lessened, the use of flannel underclothing is also a valuable precaution. He says only experience can teach European residents in India the conditions under which they are in danger of chilling.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

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THE COMPLETE MEDICAL POCKET-FORMULARY and Physician's Vade-Mecum: Containing Upwards of 2,500 Prescriptions, Collected from the Practice of Physicians and Surgeons of Experience, American and Foreign. Arranged for Ready Reference Under an Alphabetical List of Diseases. Also a Special List of New Drugs, with Their Dosage, Solubilities and Therapeutic Applications; Together with a Table of Formulæ for Suppositories; a Table of Formulæ for Hypodermic Medication; a List of Drugs for Inhalation; a Table of Poisons, with Their Antidotes; a Posological Table; a List of Incompatibles; a Table of Metric Equivalents; a Brief Account of Antipyretics; Directions for Medical Thermometry; the Urinary Tests; and Much Other Useful Information. Collated for the Use of Practitioners. By J. C. Wilson, A.M., M.D., Physician to the German Hospital, Philadelphia. Third Revised Edition. Leather. Pp. 288. Price, $1.75; Thumb Index, $2.00. Philadelphia: J. B. Lippincott Co.

DISEASES OF THE NERVOUS SYSTEM. A Text-book for Students and Practitioners of Medicine. By H. Oppenheim, Professor of the University of Berlin. Translated and Edited by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. Second American Edition, Revised and Enlarged. With 342 Illustrations. Cloth. Pp. 953. Price, $5.00 net. Philadelphia and London: J. B. Lippincott Co. 1904.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at Its Twenty-seventh Annual Meeting held in Washington, D. C., May 12, 13 and 14, 1903. In Connection with the Sixth Triennial Session of the Congress of American Physicians and Surgeons. Official Report of the Proceedings by Charles J. White, M.D., Secretary. Paper. Pp. 215. New York: The Grayton Press.

TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE, 1896-1901. Semi-centennial Celebration. Anniversary Discourses, Presidential Addresses, Memorial Addresses, Wesley M. Carpenter Lectures, List of Papers Read at the Stated Meetings of the Academy, Officers of the Academy and of the Sections. Paper. Pp. 471. Printed for the Academy. 1903.

A SHORT PRACTICE OF GYNECOLOGY. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., L.M.; Ex-assistant Master, Rotunda Hospital. Second Edition, Revised and Enlarged. With 228 Illustrations. Cloth. Pp. 406. Price, $2.75. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

VETERINARY STUDIES for Agricultural Students. By Dr. M. H. Reynolds, B.S.A., D.V., M.D., Professor of Veterinary Medicine, University of Minnesota. Cloth. Pp. 246. Price, $2.00 net. St. Paul: Published by the Author. St. Anthony Park, Minn. 1903.

EIGHTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA. Transmitted to the Governor, Nov. 25, 1903. Cloth. Pp. 1127. Wm. Stanley Ray, State Printer of Pennsylvania. 1903.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1902. Volume II. Cloth. Pp. 1277. Washington: Government Printing Office. 1903.

THIRTY-FOURTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Cloth. Pp. 623. Boston: Wright & Potter Printing Co. 1903.